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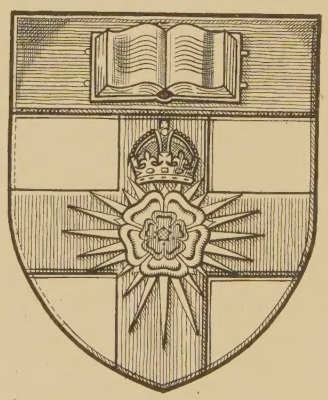

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THE CAVE OF MANACCORA, MONTE GARGANO. PART II: THE CONTENTS OF THE THREE ARCHAEOLOGICAL STRATA

(Plates I–XI)

THE purpose of this article is to give a summary account of the material that was found between 1931 and 1933 in the cave of Manaccora, in the Gargano, the excavation of which was described in volume XIX of these Papers.[1]

The strata are described in chronological order, beginning with the deepest:

Stratum III (including the Funerary Cleft)

(*a*) Pottery . . . . . p. 2
(*b*) Bronzes . . . . . p. 19
(*c*) Other objects . . . . . p. 22

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STRATUM III

Stratum III occurred in the Triangle, the two St trenches, in the Annexe, in the Funerary Cleft, and in the entrance of the main cavern. In the back of the main cavern it began at a depth of about 1·25 m. below the surface, and had an average depth of about 1.25 m., which is as extensive as stratum II and I together. In the Annexe it continued to 4·50 m. In the main cavern, stratum III was a compact mixture of sherds with lightly coloured soil, mostly sand, ashes, and disintegrated limestone. Among the very numerous sherds we found some handmills, bone tools, spindle whorls, and loom-weights, but only one formless piece of metal, apart from what was buried with the dead, though there were plenty of whetstones. The only recognisable features among this amorphous mass were the hearths. They had been built of clay, which must have come from somewhere outside the cavern, laid carefully over a layer of pebbles. This indicates that they were not used merely once to serve a casual need, and confirms the use of Manaccora as a dwelling place. Several hearths existed at the same time, which makes it likely that more than one family made use of the cavern. That would account for the quantity of material found, and would be in keeping with modern usage of Monte Gargano, where to live in a cave is still quite common. A smaller cave adjoining Manaccora was inhabited during our excavation.

The use of Manaccora as a burial place seems to have come about by chance. Perhaps the victims of a fight that took place on the foreshore in front of Manaccora were buried there. All the skeletons in the entrance of Manaccora must have been buried at the same time. They lay near the wall on top of a settlement layer. Only one child was among them. Those at the back were buried in a small cleft of the rock, their weapons with them, and a sword was put on top of the wall that closed the tomb

[1] Elise J. Baumgartel, 'The Cave of Manaccora, Monte Gargano, Part I: the Site', *Papers of the British School at Rome* xix, 1951, pp. 23–38. In addition to the persons there named, I have to thank Mr. W. Llewellyn Brown for his generous assistance in preparing the present article for publication.

cave. But people did not desert Manaccora after the catastrophe, though the Annexe seems to have been reserved for some ceremonial purposes in connection with the burials. The post-holes, the stone pavement, and the deep layers of ashes on top of it, all different from what was found in the settlement layers, call for a special explanation. The Annexe must have remained a place sacred to the memory of the dead, and was used for interments later on. Only when the layers there had grown to such an extent that the whole of the entrance to the tomb cave was hidden, and the Annexe filled in to the height of the rest of Manaccora, did the dwelling strata begin to invade it, and its farthest part may even have served as a rubbish dump. The upper layers of III there consisted of a compact mass of sherds with very little admixture of soil.

(a) *Pottery* (pls. I–IV, V. 7; figs. 1–13)

The bulk of the pottery found is hand-made and probably home-produced. Where the potter's clay came from is not known; no pots are made on the Gargano nowadays. There are, in addition, a few sherds of imported, painted pottery, and a very few of a whitish clay too worn to allow closer determination.

The summary catalogue that follows can be conveniently divided under the following heads: imported wares; polished black, indigenous ware (type B); polished red, indigenous ware (type R); coarse indigenous ware (type C); and miscellaneous pottery objects.

(i) *Imported painted pottery* (pls. I. 1, V. 7).

Out of the many thousands of fragments and a few well-preserved specimens, six fragments stand out conspicuously. They are of hard buff clay, wheel-made. They are decorated with stripes in paint. Obviously they are foreigners to Manaccora. Two of them belonged to the same vessel (pl. I. 1). They were found in trench St, only a few cm. above the stratum of the boulders, between 1·80 and 1·90 m. deep, and had been part of a large bowl decorated with three bands in brilliant paint, two dark grey with a white one between them. Two similar sherds, perhaps even from the same pot, though not fitting, were found in trench St (1). These fragments have been shown to several classical archaeologists for identification. The late Professor Zahn, of the Berlin Museum of Classical Antiquities, identified them as Ionian of the sixth–fifth century B.C., parts of ordinary household pots, perhaps water jars, such as sailors might take with them. Dr. Robert Cook, however, maintains that they are not any Ionian ware with which he is familiar. Others, though not recognising them as Ionian, yet agreed with Zahn's dating.

The fifth sherd is of a totally different sort (pl. V. 7). It is of buff clay with three reddish-brown bands painted on the outside, and painted brown all over the inside. It was found in trench A 1 of the Annexe at a depth of between 2·95 m. and 3·15 m. This is the stratum and the place where we discovered the opening that first gave access to the Funerary Cleft. Although, in terms of absolute measurement, this layer was deeper than those in which we found imported sherds in trenches St and St (1), it is chronologically later. The lowest strata in the main cave must have been formed before the Funerary Cleft was used for the funerals, whereas, at the time when the sherd

with the brown stripes was thrown away, the entrance to it was either fully or nearly fully hidden by the earth and rubbish that had fallen into the Annexe.

Sherds with similar stripes and a brilliant brown paint inside were found by Mosso at Coppa Nevigata, and are now in the Museo Pigorini in Rome.[2] Mosso called his painted sherds 'Mycenaean', but already Mayer,[3] and after him von Duhn [4] have disagreed. To me they seem identical with certain vases of late Italo-Geometric style, and this would agree with the date first suggested by Zahn.

The sixth sherd is wheel-made like the others and of a hard brownish clay. Its decoration consists of three, or probably originally four, bands of an opaque dark green paint over a thin cream slip. No provenance for this piece has been suggested.

All the painted sherds must have belonged to large vessels of simple, globular shapes.

(ii) *Polished black, indigenous ware* (types B I–B IX ; pl. II).

This ware has a polished surface, brown to black in colour, and is not unlike Bucchero. In the break it is either black or grey. The polish in some of the best pieces has a nearly metallic lustre. The potter knew how to enhance this effect by the shape he gave his products. He liked to break up the smooth surface of his pots into different facets, like little mirrors. There are carinations at the bellies, or near the bottoms of the vases. In some, straight necks are contrasted with oblique facets, a motif which is also used around the openings of pots, where it is called 'turban edge'. Knobs, and knobs surrounded by incised circles, are favoured decorations. The varieties of shape are great, and so are the varieties of handle. Nine different types may be distinguished (Types B I to B IX).

Type B I (figs. 1–3). *Carinated Cups.* Type B I is a common form and occurs in different sizes, both in coarser and in finer ware. Some cups measure only 5 to 7 cm. in diam., others up to 17 cm. The carination is either in the middle of the belly or rather nearer the mouth, and is sometimes decorated with knobs (fig. 1.19). The bottom is flat or has a concave disc-shaped depression in the middle. The lip is turned outward at a sharp angle (fig. 2.1, 5, and 8), and may be either narrow, or wide and funnel-shaped. The ribbon handles begin at the carinations, and end in square or rounded tongues which surmount the mouth (fig. 2.1, 5, and 10). The actual opening of the handles is narrow and does not allow for more than one or two fingers to be passed through.

Type B I is one of the oldest forms represented at Manaccora. It was found in the deepest layers of stratum III, in the Funerary Cleft (fig. 2.10), even underneath the burials (fig. 2.8), and in the Annexe at a depth of 4·10 m. (figs. 2.11 and 3.1). It remained in favour in later times, and was found in higher levels also (fig. 2.5 from the Triangle, 1·60 m. deep).

Type B II (fig. 1.3, 6, and 13). *Carinated jugs.* This is one of the rarer types. It seems to be restricted to the deepest layers. The jugs are squat and the carination is rather deep down on the belly. The lips turn outward. The ribbon handles spring from the carination to the lips, which are raised where they meet. One of these jugs was

[2] A. Mosso, 'Coppa Nevigata', *Mon. Lincei* xix, 1909, pp. 305 ff.

[3] M. Mayer, *Apulien*, 1914, pp. 29 ff.

[4] F. von Duhn, 'Coppa Nevigata', in Ebert, *Reallexikon der Vorgeschichte* ii, pp. 322 ff.

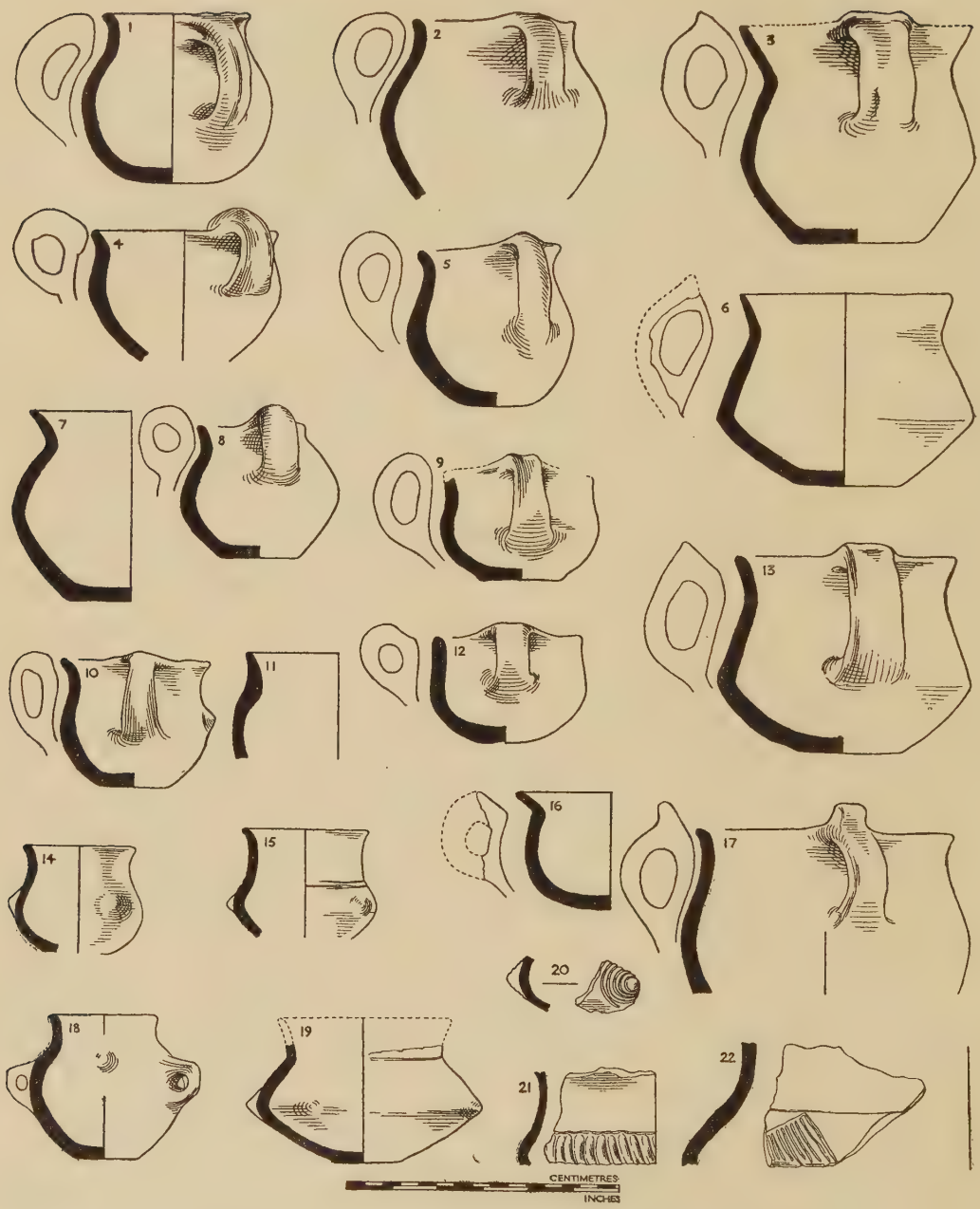

FIG. 1.—STRATUM III, POLISHED BLACK WARES (pp. 3–10).

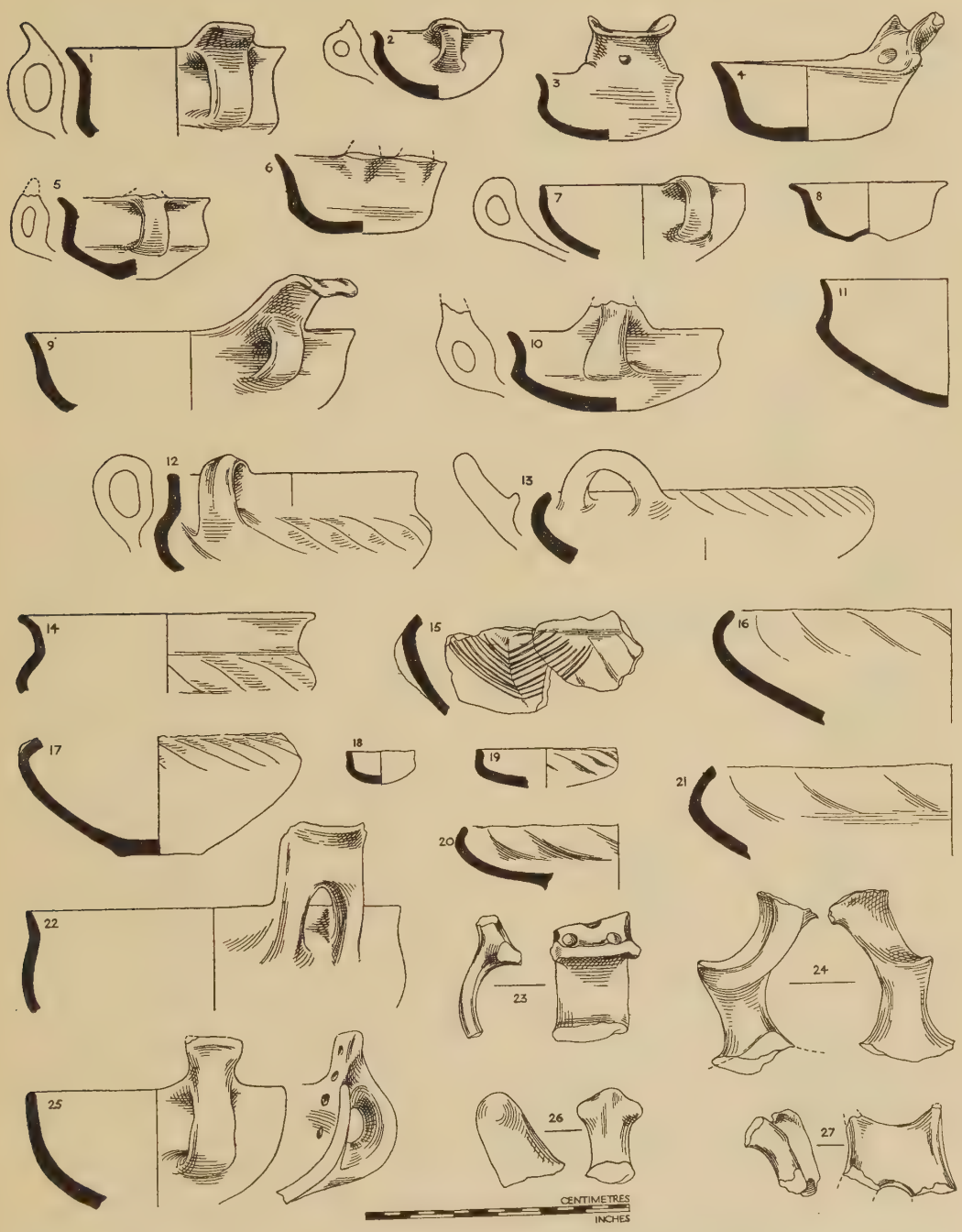

FIG. 2.—STRATUM III, POLISHED BLACK WARES (pp. 3–10).

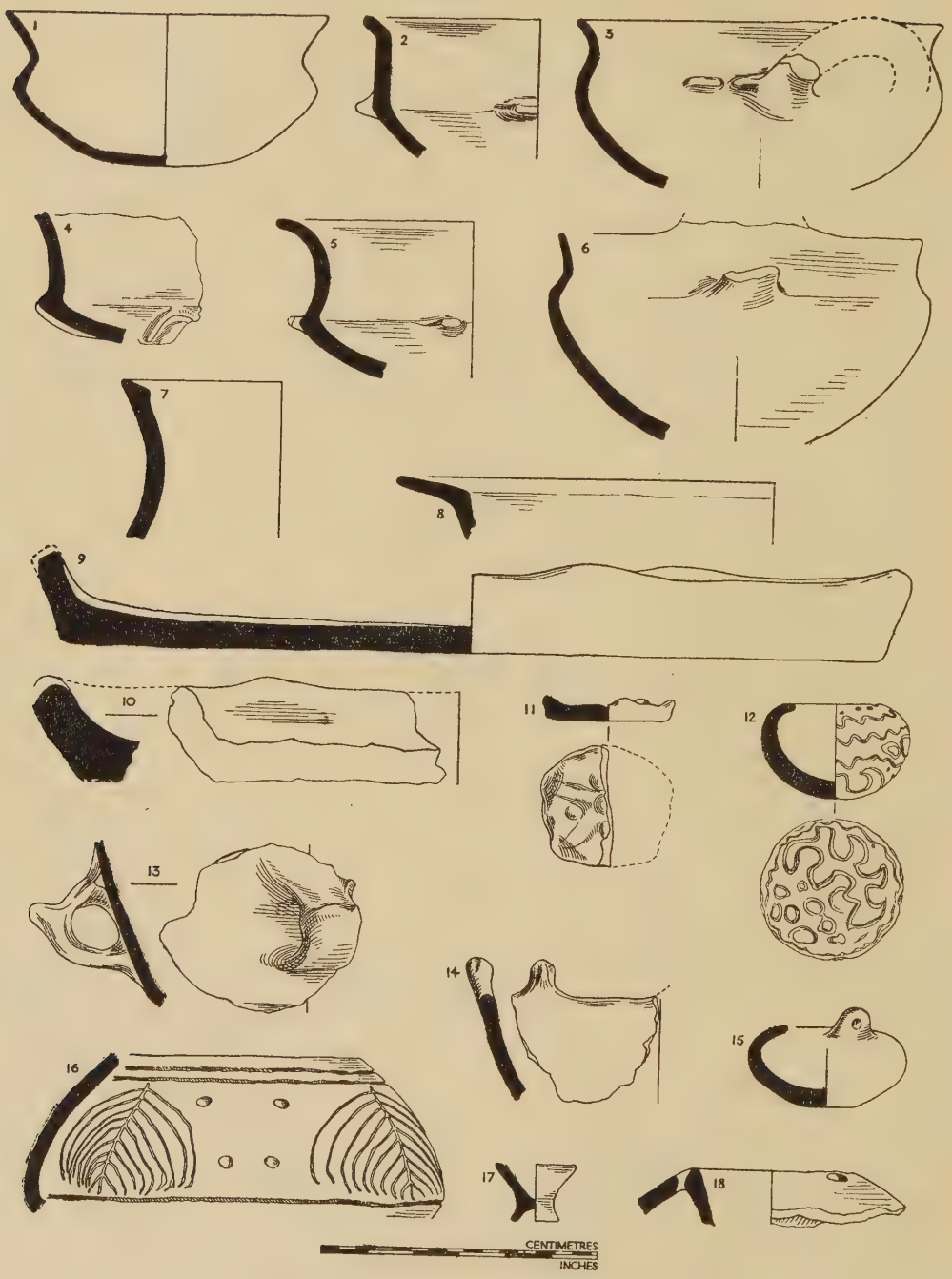

FIG. 3.—STRATUM III, POLISHED BLACK (1–8, 12–15, 17, 18) AND POLISHED RED (9–11, 16) WARES.

found with the skeletons in the Funerary Cleft (fig. 1.6), one in the deepest stratum of A 3 (4·25 m. deep). They also occurred in the deepest layers outside the Annexe.

Type B III (fig. 1.4, 9, 12, and 16; fig. 2.2, 7, and 18; fig. 3.3 and 6). *Cups with rounded bellies.* Type B III is very common throughout. It is a rather shapeless vessel. Some have a raised bottom. Only the ribbon handles give some character to these cups; they rise above the mouth. A variation of type B III has a neck or a lip which turns outward sharply. Two B III cups were found with the skeletons in the Funerary Cleft, SS 5 (fig. 1.16), and SS 12 (fig. 1.12). One of them is nearly hemispherical, the other has a turned-out lip. This shows that both varieties are contemporaneous. These cups remain in fashion all through stratum III of Manaccora.

A miniature cup of B III, less than 4 cm. in diam. and not quite 2 cm. deep (fig. 2.18), was found in trench A 2 at a depth of between 2·55 m. and 2·60 m., a layer over-rich in sherds. The little cup may be a votive vessel, or a child's toy. A few more of these tiny vessels of different types were found in stratum III.

Type B IV (fig. 1.1, 2, 5, 7, 8, 10, 14, 15, and 17). *Jugs with rounded bellies.* B IV is as popular as is the corresponding type in cups. The flat bottom and only slightly marked neck give it a square appearance, which is not greatly altered even when the neck turns outward at a sharper angle and forms a lip. The ribbon handles are either drawn out higher than the edges of the pots, or the edges are raised to meet the handles. Some jugs have four evenly spaced knobs around the middle. Sherds of round-bellied pots were among those found underneath the skeletons in the Funerary Cleft. They were among the tomb furniture (SS 1, fig. 1.5; SS 10, fig. 1.10), others were found deep in the Annexe, or in the deepest layer of trench St (fig. 1.1). They persist throughout stratum III, inside and outside the Annexe (fig. 1.2 and 14). None of the jugs found had a spout, nor were there any broken off spouts among the sherds.

Type B V (fig. 4.1–2). *Narrow-necked bottles.* Type B V has a narrow, straight neck, sometimes a lip, and a rounded belly. It is not so common as type B IV, but persists throughout stratum III. Sherds of bottles were found in the Annexe, trench A, 3·50 m. deep (fig. 4.1–2) and also outside. Occasionally they have fluted bellies.

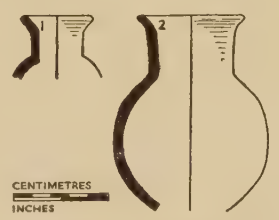

FIG. 4.—STRATUM III, POLISHED BLACK WARE, TYPE B V.

Type B VI (fig. 3.2, 4 and 5). *Cups with low carination.* This type has two variants: one has straight sides with a lip that turns up and out, the other has concave sides with a lip that turns horizontally outwards (fig. 3.2 and 5). The carination is deep down, below the middle of the vessel, often emphasised by four symmetrically spaced knobs. In one case a horseshoe-shaped handle is fixed below the carination very near the bottom (fig. 3.4). Type B VI is characteristic of the higher layers of stratum III. In the Annexe it occurred not deeper than 3 m. (fig. 3.2, 4 and 5), whereas outside, in the Triangle, it was found between 1·60 and 1·80 m.

Type B VII (fig. 2.12–17, 19–21). *Cups with turban edges or fluted bellies.* Either the edges or the bellies of type B VII are made of a series of slanting facets, as if they were wound like a turban. In the brilliant black of the bucchero they reflect the light and

create the illusion that the pots are made of something much less solid than potter's clay. In contrast to the broken surfaces of the bellies, the necks are plain, either straight and without lips, or slightly funnel-shaped and with a turned-out lip. The handles begin at the bellies and are drawn higher than the edges of the cups. Some have a raised midrib (fig. 2.12). The cups with turban-rim are softer in shape. Most of them have rounded bellies and no lips. They are wider than they are high. Only in rare cases is the turban rim separated from the belly by a carination. A tubular handle, fixed near the rim and mounting beyond it in a semicircle, is preserved with one sherd (fig. 2.13). Some of these cups are up to 20 cm. in diam., others not more than 8 cm.

No vessel of type B VII was found in the Funerary Cleft or in the deepest layers of the Annexe. Outside, in the main cave we found sherds of it down to the deepest layers. In trench St a fragment of a turban edge and one of a fluted belly were picked up in the stratum directly above the boulders, between 1·80 and 2·17 m. deep (fig. 2.16). Some of these cups are of fine clay and very carefully made.

Type B VIII (fig. 1.18, 20–22 ; fig. 2.15, and fig. 3.12, 15, and 17). *Miscellaneous.* Under type B VIII are grouped together all those pots of unusual type or decoration which would not fit into any of the preceding types. The first to be mentioned links up with type B VII, for it has a fluted belly. What makes it stand out is a pattern of incised lines, which begin at the plain neck of the vase (now broken) and end near the flutings, forming open triangles. They were originally filled in with white (fig. 2.15). This sherd was found in the triangle, 1·35 m. deep.

A lid of conical form, also from the Triangle, comes from the same trench, 2·35 m. deep. It must have served a straight-necked vase, for it is provided with a straight piece to be inserted into such a vase. It could also be secured to the neck of the vase by a cord which would pass through two small handles on opposite sides of the lid, and a third one on its top. Two incised V's, their points toward the top and, between them, two incised circles decorate the space between the now broken handles.

The most remarkable piece in this group is a bowl from the Funerary Cleft (SS 13 ; fig. 3.12 ; pl. VI. 1). It is nearly spherical, with a small circular mouth. Pairs of holes, on opposite sides of it, show that it is a hanging vessel. The whole of its body is covered with incised decorations. Three wavy lines surround the mouth, with some circles between the second and the third at odd intervals. The main field is filled by a strange figure which may be a highly stylised dancer with floating skirt. In front of it are what might be mis-shaped circlets or symbols so conventionalised that their meaning is lost to us. The engraving was filled with white. Though this cup (diam. 7·5 cm.) accompanied a burial and took the place usually filled by a drinking vessel, it seems most unsuited for this purpose. Nor does it resemble a lamp used for lighting the Funerary Cleft. Nothing like it was found in any other part of the excavation. Professor Rellini mentions a similar vase [5] from Leporano, now in the Museum of Taranto, but does not give any details.

More in keeping with the rest of the pottery of type B are two fragments of different pots (fig. 1.20 and 21). One is a knob only, surrounded by a shallow furrow forming four windings. It may have been one of four knobs that once decorated the

[5] *Bull. Paletn. Ital.* liv, 1934, p. 55, note 2.

belly of a vessel. The other sherd, part of the neck and belly of a pot, is somewhat bigger. It is decorated on the shoulders by vertical furrows, neatly outlined.

The sharp division of a plain neck (now broken) and a belly with incised decoration characterises another sherd also (fig. 1.22). Neck and belly are separated by a straight line. All that remains of the pattern is an open triangle filled in with parallel lines.

Two little cups (figs. 1.18 and 3.15) are unbroken and even have their unusual handles preserved. One is squat with a flat bottom and a small ledge handle with a hole, standing nearly vertical above the mouth of the vessel. The other, round-bellied and with a flat bottom and straight neck, has two square handles at its widest part. They have openings just wide enough to take a cord to secure a lid. The pot is decorated with knobs around the neck. It was found in the triangle, 1·83 m. deep.

Type B IX (not illustrated). *Plates.* A chocolate-coloured plate could be reconstructed from seven fragments. It was found in the Triangle, 1·66 m. deep. It is circular, with a diam. of 25 cm., and has a small rim which rises at four equidistant points to form ledge handles. Each of them is connected with its opposite by furrows, which cross in the middle of the plate at right angles. Four shallow circular depressions are made near their crossing point. Another specimen of B IX is more than half preserved. It is black, and lacks the ledge handles as well as the circular depressions. Its diam. in 29 cm. The back shows that the plate is made of a strip of clay wound spiral-wise, and the rim was added by folding it over. The plate was found in trench St, 1·66 m. deep. Pieces of similar plates (but none with the spiral back) were also found in the Annexe.

Type B IX evidently once served a special purpose. If my workmen are right, they were used for baking 'focaccia', a thin disc-shaped bread much favoured by the modern inhabitants of Monte Gargano.

Necks and handles (figs. 1–3). Among the many fragments of pottery, too small to give an indication of the form of the whole vessel, are some sherds of necks and handles interesting enough to be mentioned. A small piece of a neck, probably from a bottle, has a wide sloping lip (fig. 3.18), which is perforated near the neck. Only one perforation is preserved, but one will have to assume at least one more at the opposite side of the lip; for this seems to be another device for tying a lid to a vessel. It was found in the Annexe, about 3·75 m. deep. Other sherds, presumably from bottles, have no lips (fig. 1.11), but the necks, plain on the outside, have a sloping inner edge to facilitate the pouring of a liquid. A tiny sherd (fig. 3.8) is little more than a piece of a wide lip, which was once attached to what must have been a large bowl.

The number and variety of handles invented by the Manaccora potters show that handles were not only a utilitarian device, but also a possibility of adding a fancy note to simple household utensils. Two basic types occur, either singly, or combined with each other. One is of a piece with the rim of the pot. It is a ledge handle, more or less square, rising vertically above the edge. Its sides may be rolled over or curved in. The handles have small holes near the bottom, so that they can be hung from a peg on the wall when not in use (fig. 2.3 and 4). In one case (fig. 3.14) this type of handle has degenerated into a mere stump, drawn about 1·5 cm. above the rim of the vessel.

The other type is a loop handle, attached to the widest part of the pot, or to the carination. It is drawn out to a point higher than the rim of the vessel. It may have a

mid-rib (fig. 2.12). There are also horizontally attached handles. They are either simple and tubular or have more complicated shapes (fig. 2.13 and 24), and show a tendency to mount above the rim of the vases.

From these simple forms others, more bizarre, develop. From the back of a handle a spur may protrude ending in a club, in horns, or a disc (fig. 2.26). Often the two basic shapes are combined. A ribbon-handle is attached to the back of a raised ledge, or the rim is drawn out to form a tongue which curves backwards and has a small ribbon-handle attached to its back. The horizontal handles also affect all sorts of fantastical shapes (fig. 2.9 and 22).

The insides of the handles may be decorated with a series of incised circles (fig. 2.23 and 25). In some rare cases the handle does not reach the neck or the lip of the vase; it may then be decorated by a midrib or crest (fig. 3.13).

(iii) *Polished red, indigenous ware* (types R I–R VIII; pl. III).

The polished red pottery occurs in a finer and a coarser variety. The finer is brown in the break, of even texture, and hard. It is covered with a vivid red slip and highly polished. Many of its types are similar to those of the B pottery. The rougher R ware is of uneven colour, sometimes very little polished. It is difficult to draw a line between it and the coarse ware, which probably served a similar purpose in common household use.

The red pottery occurs as early as the black, but was not used as funerary equipment.

Type R I (fig. 5.1–4, 6, 8–16, and 20). *Carinated cups.* Like their counterparts in B they are a common shape and occur in different sizes. A fragment (fig. 5.15) which has kept its handle intact once belonged to a cup 27 cm. in diam., another (fig. 5.6) barely measured 6 cm. Most of the cups are shallow and have their carinations in the upper part of the belly. Few have a funnel-shaped neck.

Most sherds of the fine R I cups come from the damp stratum in the Annexe, and from the stratum of the ashes directly below it, i.e. between 3·12 m. and 3·50 m. deep. None were found in the deeper stratum, which was formed whilst the tomb cave was still accessible. A single R I sherd was found under the skeletons in the tomb cave. In the trenches outside the Annexe, however, no such differentiation was noticeable.

Type R II (fig. 6.5 and 11). *Carinated jugs.* They are squat, with the keel rather deep down on the belly. The handles begin at the keel and end at the rim. The part above the carination is either slightly concave, with no lip (fig. 6.5), or retreats sharply to form a funnel-shaped neck (fig. 6.11). R II is one of the rarer types; the few sherds found come from the higher parts of stratum III.

Type R III (fig. 5.5, 14, 21 and 26). *Cups with rounded bellies.* These cups correspond to the black cups with rounded bellies, B III above, p. 7. They frequently have elaborate handles with a tall tongue rising above the junction between handle and rim (fig. 5.5, 6, and 14), sometimes running to horns at the top. At other times they have simple horizontal loop handles (fig. 5.21).

Type R IV (fig. 6.1–3, 7–8, 11). *Jugs with rounded bellies.* There is a finer variety with a narrow bottom and a pleasant curve of belly and neck (fig. 6.7 and 8), and a coarser variety (fig. 6.1), squat with a wide bottom and little differentiated outline. No pot of this type has the brilliant red polish known from the fine types; they are a

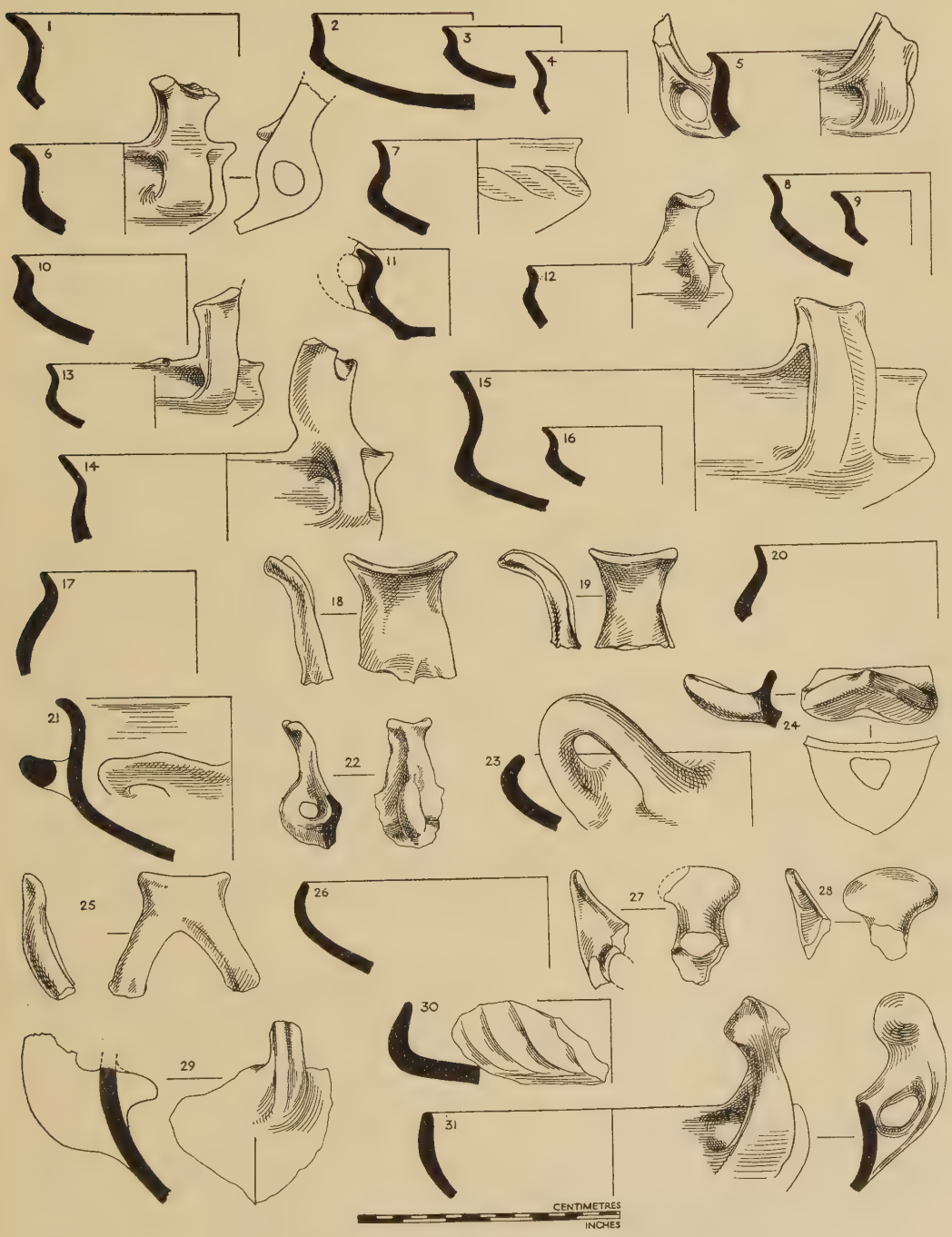

FIG. 5.—STRATUM III, POLISHED RED WARES (pp. 10–14).

humbler kind of vessel akin to the coarse pottery. Most handles are short and fixed to the upper part of the pots. They are either drawn up above the rims or fixed to the lips, which form small excrescences where they meet. Some have two loop handles. R IV is a common type found throughout stratum III.

Type R V (fig. 5.7 and 30). *Cups with turban edge or fluted belly.* These are similar to type B VII, and were made both of the fine and the coarse R ware. The fine variety is broken into very small fragments, some of which could be pieced together to reconstruct the shapes. In the Annexe they were most frequent in the stratum just above and in the ashes (fig. 5.30). In the other trenches they occurred from the lowest layers (fig. 5.7, from the deepest stratum in trench St(1)).

Type R VI (figs. 3.16; 7.15; 8.8). *Pots with decoration incised or in relief.* These are very rare. The most important is the upper part of a carinated vase of a darkish red (fig. 3.16). Its diam. at the carination is about 26 cm. Around the carination and twice around the mouth are lines impressed in the 'false cord' technique. Between them is a pattern consisting of two different elements, alternating. One is a branch-like design: from a midrib, nine lines each side are drawn down nearly to the line surrounding the carination; the other is a combination of four circles disposed in pairs, one towards the edge, the other near the carination. The design was filled in with white. This sherd was found in trench St, 1·63 m. deep.

Another incised fragment was found in the upper layers of the Annexe, at a depth of 2·55 to 2·60 m. All that remains of the incised pattern is a system of superimposed triangles, each of which is connected with the one above by a line starting from its tip. In the lowest triangle two dots are all that remains of an originally more complicated pattern.

Decorations in relief occur very occasionally on the R ware, but are common on the coarse ware, and show that the coarse R ware and the ordinary coarse ware are near relations. The patterns, however, are different. Characteristic for the R ware are three little parallel bars, fixed either on the belly of a jug (fig. 8.8) or near the rim (fig. 7.15).

Type R VII (fig. 3.9–11). *Plates.* These do not differ from their counterparts in black (type B IX). A miniature vessel (fig. 3.11) was found (diam. 7 cm.), which is either a child's toy or a votive vessel. It shows all the detail of the big plates, even down to the incised discs around the centre. Fragments of R VII were found throughout stratum III.

Type R VIII (fig. 6.14, 15, and 17). *Ladles.* These have oval bowls and in most cases loop handles (fig. 6.14 and 15). There is one example of a hooked handle (fig. 6.17). It was found in the deepest layer of the Annexe, 3·50 m. deep.

Necks and handles (figs. 5–8). Some fragments of what may have been narrow-necked vases show that bottles existed in R also (fig. 7.14,18, 19 and possibly 13). They have lips.

The sherd of a wide lip must have belonged to a big pot (fig. 7.20). A fragment of a rim has a collar inside (fig. 7.21), probably to accommodate a lid: another (fig. 7.17) has it outside.

The loose handles of R found among the sherds are again varied and interesting. The two basic types of B, the ledge and the loop handle, occur either singly or in combination. Spurs grow from the loops, crowned by knobs or discs (fig. 5.27, 28, and

31). A favourite seems to be the rectangular ledge with a loop at the back, a narrower tongue, sometimes either ending in horns (now broken) or provided with a hole (fig. 5.6, 12, 14, 15, 18, etc.). The way in which the handle is secured to the body was

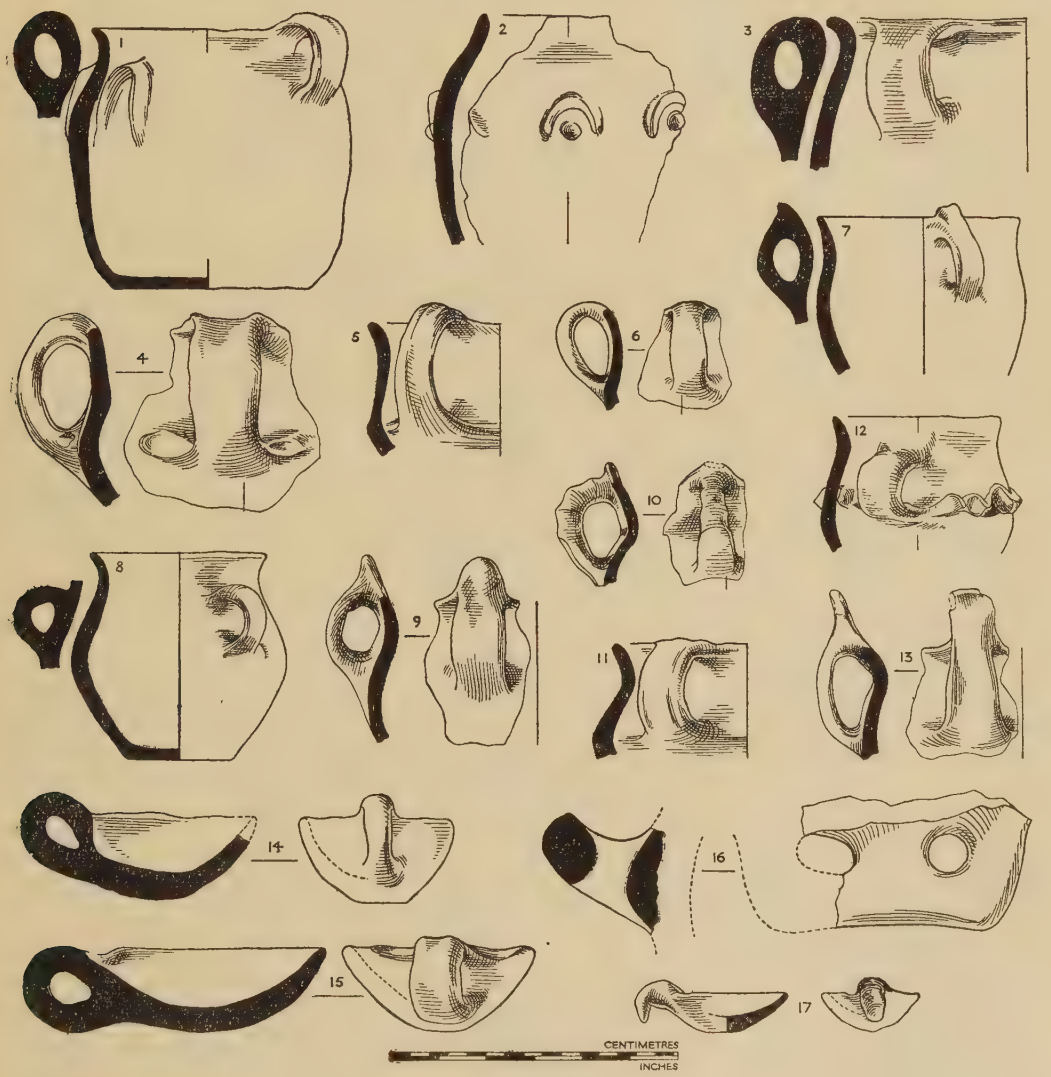

FIG. 6.—STRATUM III, POLISHED RED (1–11, 13–17) AND COARSE (12) WARES.

given some thought. It may grow from the carination of a carinated vessel (figs. 5.15 and 6.5), or the handle-base of a round-bottomed pot may be enlarged to form two discs or volutes (figs. 8.14; 6.4) and so give the handle a firmer grip on the body of the vase. Another way of strengthening the attachment of the handle was to rivet it to the wall of the vessel by means of a peg (fig. 5.29).

The horizontally attached handles were also made with much ingenuity. They may rise in a graceful loop above the rim of the cup (fig. 5.23), or may be more solid and angular (fig. 5.24), or more fanciful (fig. 5.25). Of the simple ledge handle only one specimen was found. It has two perforations (fig. 6.16).

(iv) *Coarse indigenous ware* (types C I–C IV; pl. IV).

The greatest part of the pottery found in Manaccora is coarse. No part of Manaccora III is without it. Some of it was found underneath the skeletons in the tomb cave. The bottom of a big storage jar was used as saucer for a bowl belonging to one of the buried. Countless sherds were found in the Annexe and all the other trenches.

The C pottery has not more than four distinct types, but a style of handles and of decoration quite its own. It was used for large vessels with soft outlines, most of them without necks or lips. It has simple loop handles (either vertical or horizontal), or, in many cases, ledge handles and other supports useful for shifting heavy vessels. The decoration consists of applied clay bands, which are either smooth or adorned with finger-tip impressions, or incisions made either with the finger-nails or with the tip of a stick. Sometimes the still wet clay was pinched (fig. 6.12), so that the band looks like a frill fastened around the pot. The bands may begin at the bottom of a loop handle, or may take in the ledge handles in their system of decoration (fig. 7.8). On some pots the rims are decorated with corresponding patterns (fig. 7.1, 5, 6, and 10). It is astonishing what a variety of different patterns the Gargano potter was able to achieve with his primitive means. There are hardly two pots with identical decorations.

Type C I (figs. 7.1–8; 8.1, 2, 7, 9, 10, 12, 13, and 15). *Cooking and storage pots.* These are classed together, because in many cases it is impossible to draw a dividing line. Some of the big vessels must have had a diam. of more than 30 cm. The walls are 2 to 3 cm. thick. Two sub-types can be distinguished: one with straight walls receding a little towards the mouth. These have ledge handles near the rims (fig. 7.1, 2, and 3). The other type has rounded walls, marked necks, sometimes funnel-shaped, and either ledge or loop handles (figs. 7.4, 5, and 7; fig. 8.1, 2, 9, 10, and 13). The ledge handles may be simple or wavy, horizontal or tilted up, so that in extreme cases they become vertical (fig. 7.8). The straight-walled pots have flat bottoms, those with rounded bellies are shaped to fit into separate stands.

Deep bowls with wide mouths and narrow bottoms are rare. A fine piece was found in the entrance of Manaccora, below the skeletons. It measures 48 cm. across its opening, 9 cm. across the bottom, and is 15 cm. high. In the middle of the bottom is a hole. The bottom of a similar but smaller bowl is decorated with a cross made of two shallow furrows (fig. 8.12).

Type C II (figs. 6.12; 8.3–6). *Jugs.* These have soft contours with rounded bellies (fig. 8.3–6). Their necks turn outwards at a more or less obtuse angle. They have flat bottoms. Some have the characteristic ribbon decoration (fig. 6.12).

Type C III (not illustrated). *Plates.* The plate C III differs only in the coarseness of its fabric from those described under B IX and R VII.

Type C IV (fig. 9.1–3). *Potstands and hearths.* Two main varieties occur. One is roughly cylindrical, wider than high, and could hold a medium-sized pot with a

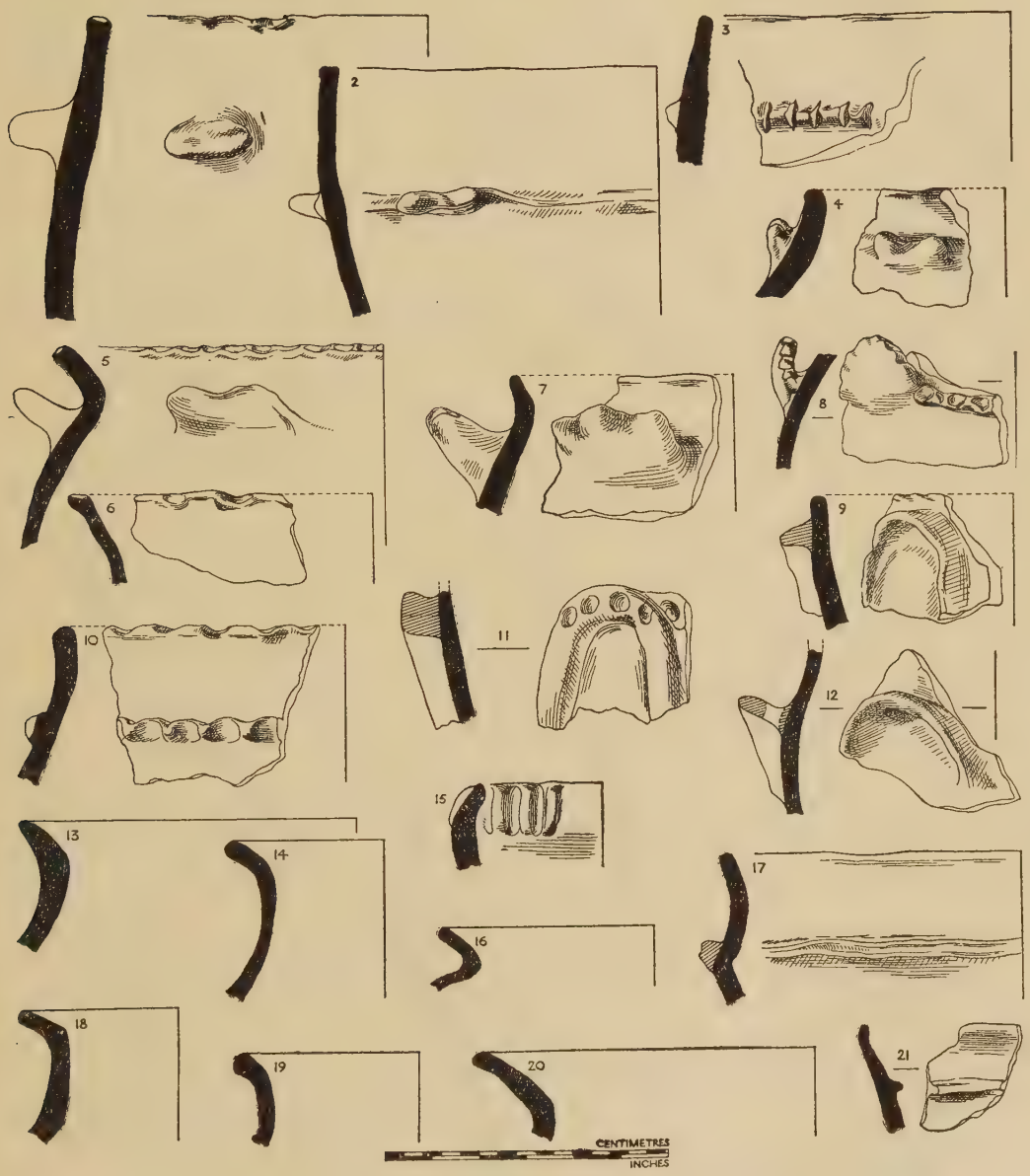

FIG. 7.—STRATUM III, COARSE (1–12) AND POLISHED RED (13–21) WARES.

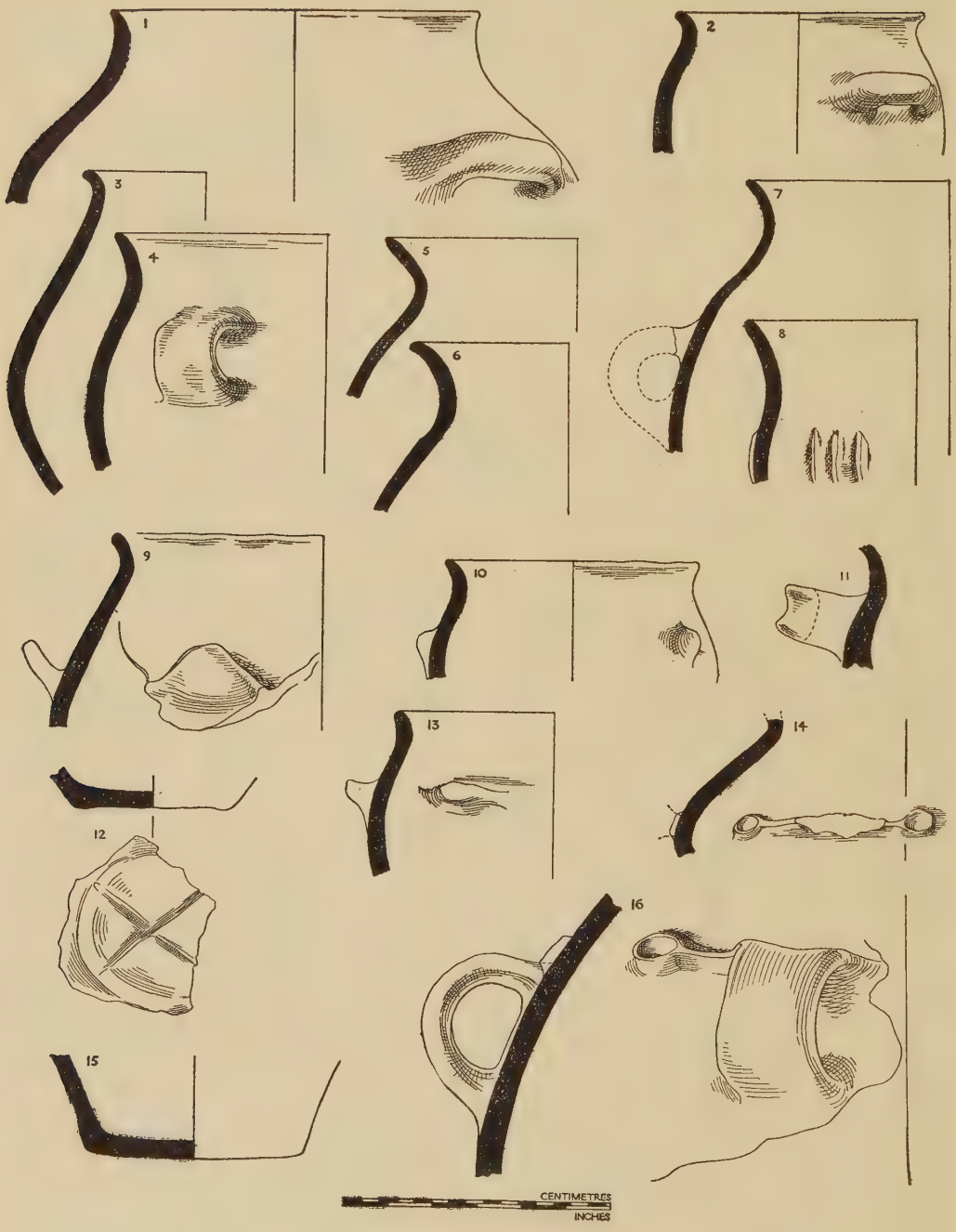

FIG. 8.—STRATUM III, COARSE (1–7, 9, 13, 15, 16) AND POLISHED RED (8, 14) WARES.

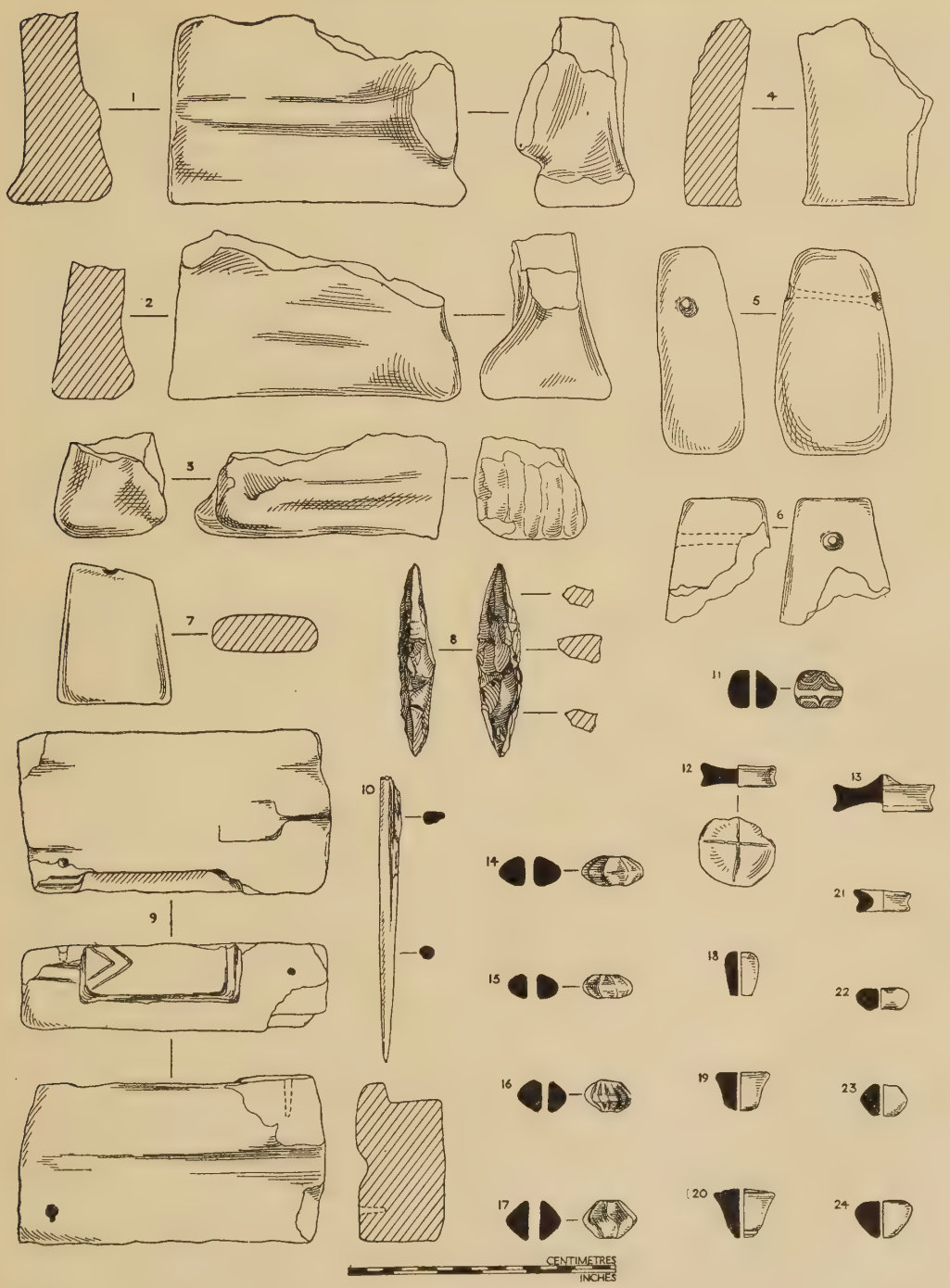

FIG. 9.—STRATUM III (1–3, 7–24) AND STRATUM II (4–6): POTSTANDS (1–4), LOOM-WEIGHTS (5–7), FLINT (8), CLAY MOULD (9), BONE POINT (10), GLASS BEAD (11), POTTERY SPOOLS (12, 13, 21) AND SPINDLE-WHORLS (14–20, 22–4).

rounded belly. The other is a more sophisticated affair, and was made either to stand in a fire or to be filled with burning charcoal. None of these hearths was found complete, but enough is left to ascertain their original shape. Some were reconstructed and are now in the museum of the Department of Palaeethnology in the University of Rome. They are horseshoe-shaped and open in front. Two broken end-pieces (turned on their sides) are illustrated on fig. 9.1 and 2. The hatched drawing on the left represents the base, the drawing on the right shows the top with a break into which a bar fitted. Two pottery bars were fixed in the top opening on which the cooking pot was to rest. The fragment fig. 9.1 is uncommon in that it has decoration in relief. The object represented is difficult to explain. It looks like a pointed stick with a large triangular top. The sherd was found in the Annexe, 1.75 m. deep.

Broken pieces of the hearths were found in all parts of the excavation; fragments of the top bars were especially frequent. All of them were smooth above, and showed traces of fire underneath.

Handles. In contrast to the variety of fancy handles found with the fine pottery of Manaccora the coarse ware has scarcely any real handles at all. Apart from simple loop-handles, the majority of the C ware is provided with ledge handles, or horseshoe handles (fig. 7.4, 5, 7, 9, and 11; 8.11 and 16).

(v) *Miscellaneous pottery objects.*

The objects listed are made of pottery, but are not vessels. They are classified according to their shapes and uses, and not according to the ware, black, red, or coarse, of which they are made.

1. *Small pyramids or cones of clay perforated at the top* (fig. 9.7). These occur throughout stratum III, and are often called loom-weights. They vary in height between 6 and 15

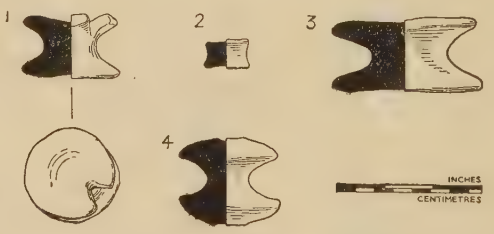

FIG. 10.—STRATUM III, POTTERY SPOOLS (p. 18).

cm. A deposit of them, cone-shaped and of unbaked clay, was found in front of the entrance to the Funerary Cleft. They may have been loom-weights, but they have been found frequently near tombs of the beginning of the Iron Age, in a position similar to where they were discovered at Manaccora. Deposits of them have also been found in sacred places. Rellini thought they were often votive objects.[6]

2. *Pottery spools.* Their most likely use is that of spools for weaving (fig. 9.12, 13, and 21; fig. 10). They are composed of two hemispheres or two flat discs joined by a short neck; in some cases this is merely a groove. It has been suggested that they were toys, 'yo-yos', to be balanced on a cord.

[6] U. Rellini, 'Piramidette Fittili', *Bull. Paletn. Ital.* liv, 1934 pp. 178 ff.

3. *Spindle whorls.* Spindle whorls occur in fair numbers throughout stratum III. Some of them are conical (fig. 9.19, 20, 24), either of smooth black or of coarse pottery, and seem well suited to weight a spindle. Others, in brilliant black ware, fluted or with the turban twist, may have been beads (fig. 9.14–17, 22, and 23). They were, however, never found together with glass or bronze beads, commonly used for personal ornaments, and they also may have been used as spindle whorls.

(b) *The Bronzes* (pls. VII–XI)

The description of the bronzes of Manaccora is a sad story. The circumstances outlined in the previous report have ensured that barely half the material found is still in existence, and much of that is in very poor condition. Of the twenty-one swords and daggers (eighteen in the Funerary Cleft, one across the wall closing its entrance, and two buried with skeletons at the entrance to the cave) fourteen can now be traced. But of these some are in fragments, others are heavily restored in plaster and can no longer be identified from the original photos taken at the time of excavation, and all have lost their identifying marks. The smaller bronzes have escaped restoration but have otherwise hardly fared better. The illustration has been taken from the best preserved pieces, and from such original photos as have survived the events of the last twenty years.

All the larger bronzes were entered on the plan of the tomb cave during excavation (Part I, fig. 1). Those from outside the Funerary Cleft were found either with the interments in front of the Cleft and in the Annexe, or with the skeletons in the entrance to the cave. A small shapeless piece of bronze was all the metal found in the three dwelling strata. This explains, I think, why no metal was found in the settlement-sites excavated by Professor Rellini and by Dr. Puglisi, all of which were on a much smaller scale than those at Manaccora. Metal was too costly to be left behind.

Bronze is the only metal preserved from Manaccora. It was in a very fragile state when excavated. Iron, which must have been the raw material for most tools, had no chance to survive. Not even at Coppa Nevigata, where the remains of iron foundries were found in association with pottery similar to that of Manaccora III, was any iron tool preserved. The two moulds from Manaccora were for bronze, but neither of them for types actually found in the cave: nor were there any signs that casting had been practised on the spot.

Swords and daggers (pls. VII–IX).

The largest sword found was about 60 cm. long and the smallest dagger about 13 cm. The rest range between these two extremes, no two of the same length, no two cast in the same mould. Some had flat tangs, some had tangs with raised edges to fit wood or bone grips, some had no tang at all (pls. VII. 1–4; IX, 1*a*, 2*c*). The longer swords had wide and shallow midribs, some of the smaller daggers were without. The daggers and swords without tangs seem rather inefficient weapons, and some devices were developed to give the handle a firmer grip on the blade. The smallest of the daggers provide a flat curved plate for the fixing of the handles, through which three rivets were driven (pl. VIII. 4, 7). A rapier with slightly curved outlines about 45 cm. long and, at its widest point not more than 3 cm. wide, has a bigger,

semicircular plate also provided with three rivets. A dagger (or short sword), 30 cm. long, has a grip plate in the form of a trapezoid wider than the blade. At its top is a triangular incision which makes it look horned. Two rivets each side fixed the handle (pl. IX. 1*b*). With another dagger the hafting problem was solved by adding a short piece to the top of the grip plate, like the beginning of a tang. It has three rivets (pl. VIII. 3, IX. 2*a*).

It seems difficult to draw a dividing line between tanged daggers and short swords, as some of them have blades with parallel edges and wide shallow midribs, which make them more suitable for cutting than for stabbing. A few of the longer swords have curved outlines. The shorter tanged weapons end in hemispherical or trapezoidal grip plates with two rivets. To them are added short square tangs, which have one rivet. The longer swords were provided with more rivets, and their tangs with more sophisticated devices to secure the handles. The edges of the tangs were raised to prevent the handles from slipping sideways. Some tangs bulge so as to allow for a handle that fits the hand conveniently.

Two of the long swords have tangs of an individual type. One (pl. VII. 3) is the largest found. The parallel edges of its blade widen slightly into a plate which is semi-elliptical. Along its raised edges are four rivets each side very close together. The bulging tang with three more rivets turns outward and ends in a semicircle fit for a pommel. The other sword (pl. VII. 2) is about 53 cm. long. It shares the parallel edges and shallow midrib with the majority of these weapons. It curves out towards the grip plate, but whereas all the other swords and daggers show a sharp division between plate and tang, this one unites them in one elegant curve which, in contrast to the straight or bulging tangs so far described, curves inward. Its edges are raised, and two rivets each side of the plate and two in the middle secured the handle.[7]

Knives (pls. VIII. 6, IX. 3).

Three knives were found in Manaccora, each of a different type. One lay with the skeletons in the entrance.[7] It is a simple straight-backed tool, pointed and with a tang. The two others are from the skeletons in front of the tomb cave (O and Z on the plan). One (pls. VIII. 6, IX. 3*b*) is curved and has a tang that recedes from the blade and is set at a slight angle to it; two rivets one above the other fastened the handle. The other (pl. IX. 3*a*) is straight, with the tip only curving forward. Its tang is of the same width as the blade, and is provided with two rivets across it, and a triangular hole near the concave tip.

Spirals (pl. X).

A pair of double spirals were commonly found with the dead. They consist of two flat spirals, between 2 and 4 cm. wide, joined by three windings of a tubular spiral (pl. X. 2 and 3). Their use is unknown. They were not fibulae, for there was no sign of a pin, nor would there have been room for one: the windings of the tubular spiral would have obstructed it. There are (or were) similar spirals, much better preserved than those from Manaccora, in the Museum of Zara, from the cemetery of Zaton (museum no. 1318).

[7] E. Baumgartel, 'Second Roapporto sul Gargano', *Bull. Paletn. Ital.* lvi, pl. X.

The pair of spirals (R) from the tomb cave are of a different type (pl. X. 1). They are bigger, but are made of thinner wire. The middle link much wider than those of the others is formed of thirteen windings, and the two flat spirals are replaced by two wire circles. It is difficult to think of a use for these objects. They are too narrow for arm-rings. Two pairs only were found. Similar ornaments, although none with the wire circlets preserved, were also found at Zaton.

A hanging spiral (pl. X. 4), may once have belonged to the same person as owned the pair of large double spirals just described. It is 1·5 cm. wide and not quite so high, with a narrow loop and the curled up spirals near to each other. Two little spirals, now separate, found in front of the tomb cave, may once have formed a finger-ring.[8]

Finger-rings and arm-rings (pl. X. 3–4; XI. 5).

Plain finger-rings were the most common ornaments of the people of Manaccora. Most often they occurred singly, but four to five could belong to one skeleton. In two instances they were found still on the fingerbones. Some rings were open, made of two or three windings of wire. The only more ornate type of finger-ring was described in the preceding paragraph.

Arm-rings were much rarer. Three were found at the entrance of the Funerary Cleft, one more with the bones of a fore arm at the far end. The fragment of what might have been the only more elaborate armlet was found among the mass of disintegrated bones behind the pile of skeletons in the entrance of Manaccora. It consists of two bronze strips each about 15 mm. wide, broken ends of a circlet (pl. XI. 5), each narrowing to form a spiral. These two spirals would be entwined to close the bracelet, but are now firmly oxydised together. It has been suggested that the armlet may have been part of a fibula; but this seems unlikely, since the entwining spirals, which are a known device for a clasp, would serve no purpose in a fibula.

Fibula and pins in bronze (pls. VIII. 1, 5, IX. 4, XI. 1).

It is not certain whether the people of Manaccora wore fibulae, but a fragment found among the skeletons in front of Manaccora makes it likely. When found, it consisted of four and a half windings, ending in a piece that suggested a catch and looked like the upper part of a *fibula serpeggiante*. A broken pin was found nearby. Our photograph shows what is left (pl. XI. 1; the needle points in the wrong direction).

Five comparatively well preserved bronze pins were found and several more fragments of the pointed ends. The plainest type had a loop head. It was found in the Annexe at a depth of 1·85 m. A variant, excavated with the skeletons in the entrance of Manaccora, has an undulating shaft with the head curved back to form a small spiral (pl. IX. 4). The more elaborate pins were all found in the Funerary Cleft. One (G on the plan; pl. VIII. 1) has a swollen neck chamfered horizontally and a small globular head. It is 24·5 cm. long, a remarkable length, surpassing by far that of many of the smaller daggers. It is the best preserved of the bronzes. Another (T on the plan) has a mushroom-shaped head. It is bent double at a sharp angle, so that the head faces in the direction of the point. The bending must have been intentional. It is very heavy and strong, and one wonders what the garment was like that it once adorned.[9]

[8] E. Baumgartel, 'Secondo Rapporto sul Gargano', *Bull. Paletn. Ital.* lvi, pl. XII, 6.

[9] *Ibid.*, pl. XII, 2.

The last pin (W) was found at a distance of 7·45 m. from the entrance (pl. VIII. 5). It is so clumsy that one wonders whether it was a pin at all. It is 8·8 cm. long and has two bars, one at the top, the other about a quarter of the way down its length. The lower one is triangular and about 3 cm. long; one of its ends was damaged when found. The length of the top bar is a little less. Even near the point the pin is still 6 mm. wide.

Buttons, tutuli, etc. (pl. XI. 2, 4).

The difference between buttons and tutuli is slight. Buttons are provided with loops at the backs, tutuli are convex discs, with holes on opposite sides of their circumferences. Some flat, circular plates do not fit either description. Buttons were found sometimes in dozens with one skeleton. Eighteen were found near the three armlets (C) in the Funerary Cleft. They are either shallow bowls or provided with knobs (pl. XI. 4). Some are 2 cm. wide, others nearly 4. Most of the tutuli are bigger. A fine piece about 6 cm. wide comes from the Funerary Cleft (U on the plan). Its centre is decorated with a little cone. The holes near the edge are broken.[10] A pair of flattish tutuli not quite 3 cm. wide had a beading round their edges (pl. XI. 2). A flat plate without decoration was found in the Funerary Cleft. Its holes are broken. A few tutuli had one hole only and must have been suspended.

Similar buttons and tutuli with knobs were among the finds from Zaton.[11]

Beads.

Many bronze beads were found, all of the same type, a tubular spiral made of flat wire.

Varia.

Many spirals were found, broken from objects that had perished. Thin metal strips, with perforations along the edges, must have been sewn or riveted to a lining; a little clasp may once have secured the end of a strap.

(c) *Other Objects*

Beads of glass and of amber (pl. X. 4).

In addition to beads of bronze (above) and of pottery (p. 19), we excavated a certain number of spheroidal glass beads, which are now white at the outside from corrosion, but were originally of a deep sky blue. An analysis made in the Chemical Department of the University of Rome has confirmed both material and colour. One of these, when excavated, was still stuck to the end of the wire of one of the bronze beads, indicating that the wire of the bronze beads was threaded through the glass beads, and not bronze and glass beads alternatively threaded on a cord. Two decorated glass beads were found. They seem to have been of identical pattern, although one is so corroded that it is difficult to be sure. They are 3 cm. in diameter, dark blue, and inlaid with scalloped threads in white (fig. 9.11).

Amber beads are rare, somewhat surprisingly in view of the very large quantity of amber that the Piceni, farther north on the Adriatic shore, possessed during the pre-

[10] E. Baumgartel, 'Secondo Rapporto sul Gargano', *Bull. Paletn. Ital.* lvi, pl. XII, 5.

[11] I do not know of any publication of the finds from Zaton, nor do I know whether the material at Zara survived the war. The photographs I took still exist.

Roman Iron Age. Those found were spheroids, or discs of between 15 mm. and 4 cm. in diameter. Some perforated bone discs and shells may also have served as beads.

Bone tools (pl. IX. 5).

The bone industry was highly developed in Manaccora. We found many small points that had the joint preserved at one end; these little tools are numerous in excavations of settlements, and were perhaps used to extract mussels or snails from their shells. But it is the longer pins or pricks in which the people of Manaccora excelled. In these, the joints were discarded and the bone ground down to a needle-sharp point. They were finely polished, and up to 20 cm. long (fig. 9.10). The most handsome ones, however, had been subjected to a process that made the bone shine a metallic black. The objects so treated seem to be heavier than those left uncoloured. Some of the smaller pins had rounded or triangular heads, which were perforated. The most elaborate head (pl. IX. 5) belonged to a pin found in the Annexe, at a depth of 3 m., and consisted of globes, a barrel and discs, all of the same width though of different heights. The pin, the point of which is now missing, is 10·5 cm. long.

Miscellaneous objects of stone and flint.

Whetstones were frequent throughout the settlement layers. They were rectangular, made of grey limestone, and did not differ in shape or material from the whetstones still used by the modern inhabitants of Monte Gargano.

Some querns were made of hard stone, found locally or at no great distance.

The two moulds have already been mentioned (Part 1, p. 36). The one, for casting an axe, is of limestone, damaged at the butt, and was found in the Triangle; the other, of brick (fig. 9.9), for an ornamental plate, in the Annexe.

Of the three worked flints found in the cave, two are of Macchia di Mare type. One is a little axe found under the skeletons in T, the other a 'laurel leaf' found in the Annexe. To judge from the quantity gathered by collectors in modern times, these flints must have littered the country during the centuries when the archaeological layers in Manaccora were formed, and one can only wonder that no more than two were found in it. The third flint is of no known prehistoric type (fig. 9.8). It is a rod, 11 cm. long by 1·5–2·5 cm. in diameter. It is carefully retouched all over and pointed at both ends. It may have been one of a pair of fire lighters. The flakes found in the Funerary Cleft underneath the skeletons were a-typical and were not of the Macchia di Mare industry, which is a core industry. They rather remind one of the flakes that the people of Monte Gargano still use for surgical purposes, to open festering wounds. These flint flakes are freshly detached for the occasion, and they are certainly sharper and cleaner than the steel knives-of-all-work that they are accustomed to carry about with them.

Stratum II

Stratum II was found in the Triangle, the two St trenches, and in trench N, which was dug for the purpose of gaining some more material of settlement-layer II, and was not continued below the second sterile level. Except in the western parts of trenches St and St (1), where it had been destroyed by the large Hellenistic pit of stratum

I, it began immediately below the first sterile layer, which was nowhere more than about 50 cm. under the modern surface. It was made up largely of circular pits 2 to 2·5 m. in diameter, and between 30 and 40 cm. deep. The first that we found, and the only one to touch the Triangle, was the deepest: it reached a depth of more than 80 cm., and had destroyed the second sterile layer over an area of about 1 square metre. The pits were between 25 and 50 cm. apart and separated from each other by small walls of dry stones. They were filled with domestic refuse, mostly sherds, mixed with fragments of bones, some shells, and disintegrated limestone. They contained hearths, and they must therefore have been dwelling pits or hut foundations, although no signs of superstructures were detected.

On top of the western side of the deepest pit, and partly destroying it, we found three boulders piled up as if to form a seat. This proved to be part of a stone circle, made of similar piles, and extending from the Triangle into trench St. The reason for this construction remained obscure. We searched for a tomb, but could not find one. Shortly after the erection of the circle, Manaccora must have been deserted, for the first sterile layer rested directly on those stones (Part 1, fig. 5: section G–H).

The material excavated in stratum II consisted mainly of sherds. The bone industry persisted, including needles, pins, and points, either in the natural colour or in the shiny black, but none with carved heads. There were also querns and whetstones in no way different from those of stratum III. No trace was found either of metal or of graves.

The pottery listed in the pages that follow includes both indigenous and imported pottery. The greater part of the indigenous pottery is still made without the potter's wheel. But whilst the few imported sherds picked up in III will have been from pots left behind by foreign sailors, we now find a pottery imported for local use from southern Apulia. In consequence it is quite frequent.

(i) *Imported Pottery* (pls. V. 1–6 and 8–10; VI. 1).

The light fawn-coloured pottery, of which only a few shapeless fragments had been retrieved from stratum III, is somewhat better represented in II. A fragment is decorated with an incised band, another is part of a big cup with horizontal rim and ledge handles. It was recovered from the deepest part of the pit, which reached into the Triangle. It is wheel-turned.[12]

The majority of the imported pottery is the variety of painted Apulian pottery which M. Mayer has called 'Daunian'. It is of a light clay, wheel-turned, and well baked. It exists in a fine and a coarse variety. Of both, fragments only could be recovered, which makes it difficult to reconstruct the shapes. Some show drill-holes for repairs.

The coarse ware is yellowish, covered with a white slip, on which the drawings stand out in chestnut brown. The rim and a handle of an amphora could be reconstructed,[13] the rim covered with a zig-zag pattern, the handle with a system of thin lines. Fragments of craters were found, one with part of the lip.[13] The commonest designs are pendant triangles enclosed between parallel lines, and rectangles of diminishing sizes inscribed inside each other, the innermost stippled or surrounded by dotted

[12] It was given to the Berlin Prehistoric Museum.

[13] *Bull. Paletn. Ital.* liv, pl. VIII, 1.

lines. From parallel lines around the neck a ladder may descend. Zig-zags between parallel lines occur, also concentric circles.

The finer ware could be called 'egg-shell' ware, from the thinness and hardness of its walls. It has a greenish or brownish tint, and is painted with the same mat chestnut-brown as the coarse ware, in one example enlivened by red lines. The patterns are executed with great care. A chess-board design resting on one corner is a favourite. Plain squares alternate with stippled ones, the whole enclosed in systems of thin lines.

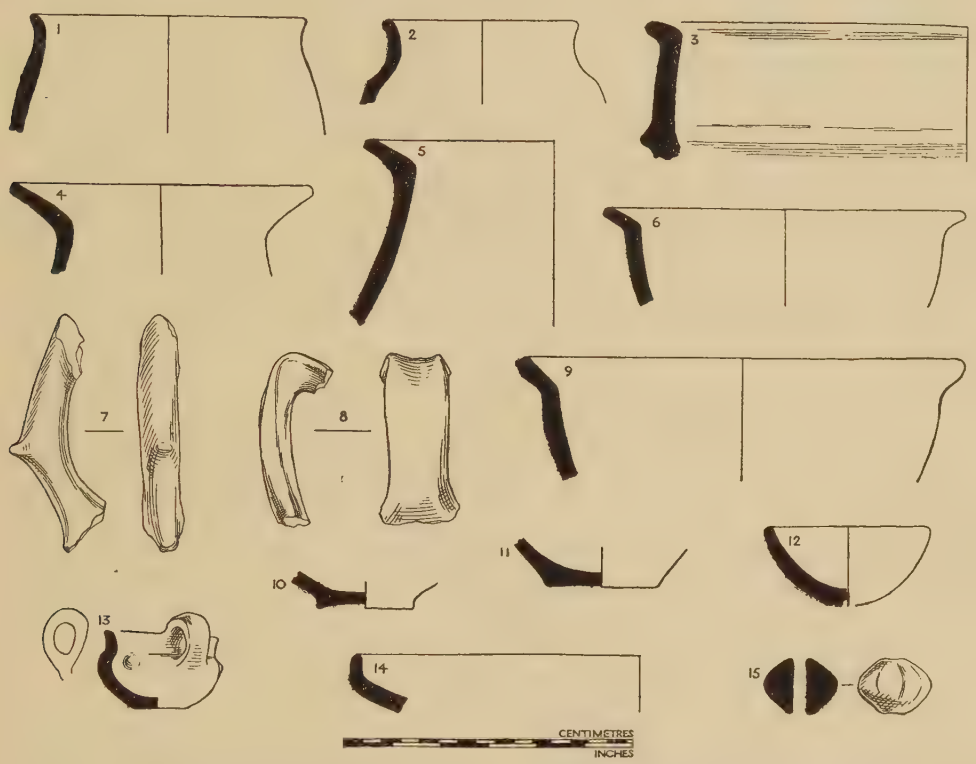

FIG. 11.—STRATUM II, POLISHED BLACK (1, 2, 10–13), POLISHED RED (4–9, 14) AND COARSE (3) WARES, AND SPINDLE-WHORL (15).

Sometimes diamonds are substituted for the squares. The vases to which these fragments belong must have been big, for their curvatures are slight.

(ii) *Polished black, indigenous ware* (type B).

The polished black ware of stratum II is finer and better made than that of stratum III. There is a finer and a coarser variety. The finer ware can be as thin and as well made as the Daunian pottery; some of it is wheel-made. The vases are of a brilliant black, a few are brownish or greyish. They are reduced to small fragments, which makes it difficult to reconstruct the types. There are fewer types than in the deeper stratum.

Type B I (fig. 11.13). *Cup with a rounded belly.* Type B I has a flat bottom, straight

neck, and a handle which begins at its widest part and curves above the rim. It may have knobs round its belly (fig. 11.13). One such cup was found whole in the Triangle, the rest were fragmentary. Some belonged to wide and shallow cups, the rims too broken to ascertain their shapes, some had disc-shaped depressions in the middle of the flat bottoms.

Type B II (not illustrated). *Cup with fluted belly.* No sherds with turban rims were found, but the fluted belly remains in fashion. Only small sherds were collected.

Type B III (fig. 11.1, 2). *Jugs.* The traditional jugs with the soft outlines and the rounded bellies are still in use, others have a marked shoulder.

Type B IV (not illustrated). *Narrow-necked bottle.* The narrow necks of the bottles are provided with lips, either horizontal or slanting towards the mouth. One fragment had its handle preserved. It began at the shoulder rising straight up, curving towards the lip, and resembling handles of amphorae.

Type B V. Miscellaneous. Some globular bowls with rounded bottoms may have been lids (fig. 11.12), but there is no provision to make them stay on the mouths of pots.

A fine and elegant beaker could be reconstructed from four sherds. It has a narrow lip and the traditional knobs around the upper part of its belly. It was found in trench N, 0·95 m. deep.

(iii) *Polished red, indigenous ware* (type R).

The polished red ware has become finer and better made in stratum II than in III. The introduction of the potter's wheel and of the Daunian pottery must have made their influence felt on both the fine indigenous wares (B and R). Further excavations, which may yield better preserved pots,[14] will show whether the shapes as well as the quality were influenced by the importations from the South. A certain number of traditional forms, however, remained in favour.

Type R I (fig. 11.6, 9, and 14). *Cups.* Cups were either flat and wide, without neck or rim, or had a flat rim. Some had knobs round their bellies.

Type R II (not illustrated). *Cups with fluted bellies.* Type R II could be reconstructed from sherds, although without the handle that once must have belonged to it. It has a flat bottom and rounded belly, the upper part of which is fluted. The plain neck is set back, and divided from the body by a sharp line.

Type R III (fig. 11.4 and 5). *Jugs.* The jugs again have soft outlines, with lips that slant inwards. Some fragments, with short and heavy necks and the beginning of a more globular body, probably belong to this type.

Type R IV (not illustrated). *Narrow-necked pots.* Some fragments of narrow necks with their lips were found. These show two varieties, one with a straight, long neck and a wide horizontal lip, the other with a neck wider at the bottom and narrowing towards the top, and with a slanting lip.

Handles (fig. 11.7 and 8). Surprisingly few handles were found, and those only of the simplest types. It is somewhat surprising that the indigenous pottery seems to have given up the picturesque handles. No loose handles were found of B, and only a

[14] Cemeteries with Apulian pottery still await excavation on Monte Gargano. One was discovered by Professor Rellini in the valley below Peschici, where the little railway has its terminus.

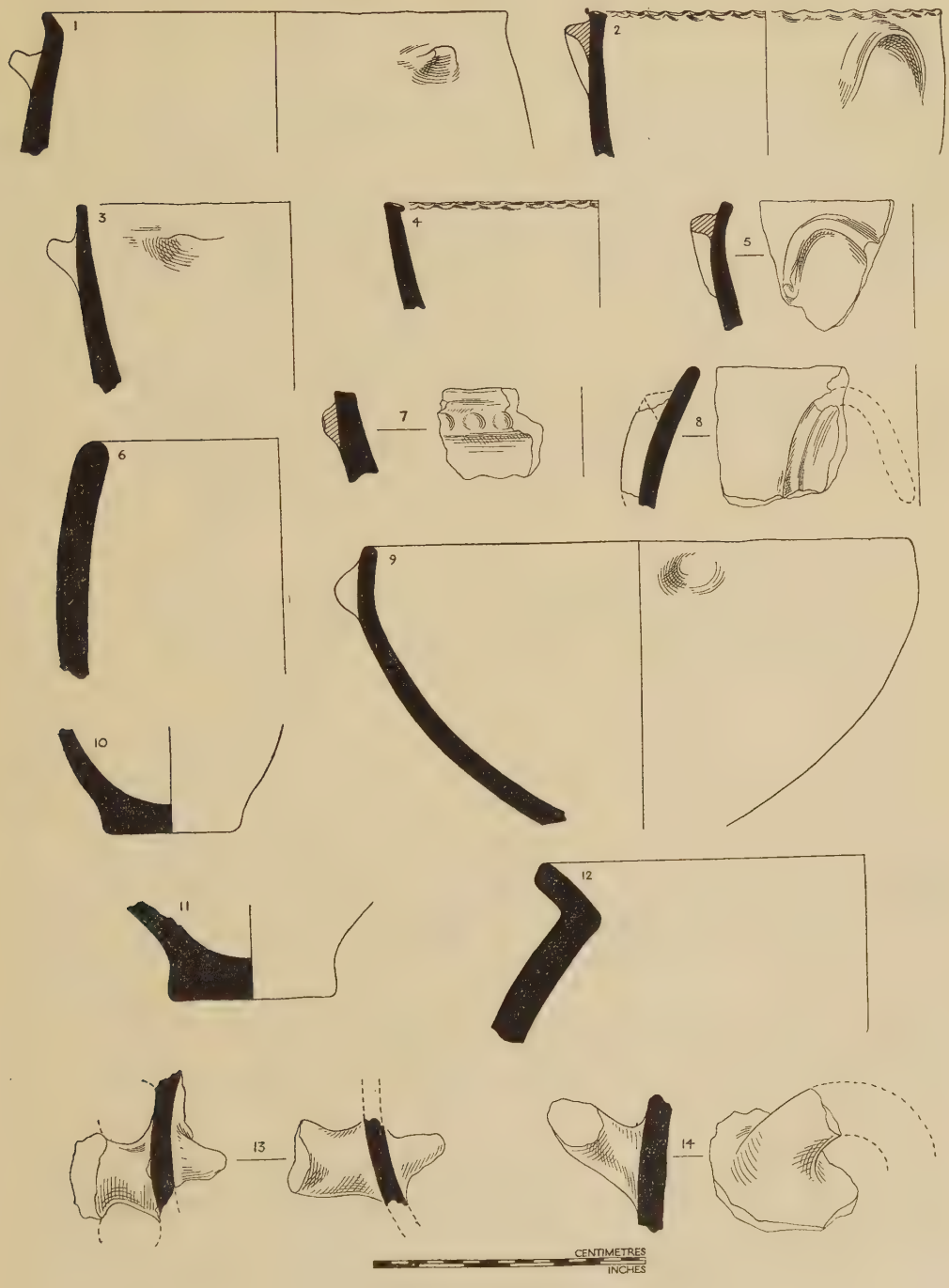

FIG. 12.—STRATUM II, COARSE WARES (p. 28).

few of R. They were either ribbon handles or horizontal loop handles. One had ornamental knobs.

(iv) *Coarse, indigenous ware* (figs. 9.4; 11.3; 12).

The bulk of the pottery found is of the coarse type, all broken into small fragments. It is hand-made. Some at least of the types that could be distinguished in III must have survived into II. With nothing else to work upon than a quantity of small fragments it is impossible to establish a type series. The only shape clearly distinguishable (fig. 9.4) is the potstand or hearth described under III C IV. The sherds of storage and cooking pots point to forms with straight walls receding a little towards the mouth. They have ledge- or horseshoe-shaped handles near their rims (fig. 12.1–3, 5, 7, and 8). The form with a marked neck is also found (fig. 12.12). A sherd may have belonged to a coarse jug (fig. 12.6). A hemispherical bowl with little or no base to stand on is similar in shape to B V. The applied ribbons characteristic of the coarse ware in III have lost nothing of their popularity; nor have the indented rims. They form the decoration of II C (fig. 12.2, 4, and 7). The handles follow the approved designs. Some were riveted through the walls of the vessels (fig. 12.13). Many flat bases were found, and these were thick and solid (fig. 12.10 and 11).

(v) *Miscellaneous pottery objects.*

The so-called loom-weights (p. 18) were also found in II. Some were pyramidal, others, flatter, had rounded tops. All were pierced at the upper ends (fig. 9.5 and 6).

The little spindle-whorls or beads were made of all types of pottery. Some of the black ones are fluted (fig. 11.15), others are globular or conical.

Stratum I

Stratum I was encountered, both in the trenches at the back of Manaccora and in the Annexe, immediately below the modern hardened surface. Unlike the deeper layers, it is not sealed between sterile strata, and it incorporates some modern rubbish. The only place where it is of some depth is in the large pit that was dug down from stratum I into the Annexe, destroying the intermediate settlement-layer II. This has meant that the material from stratum I includes a substantial proportion of sherds from stratum II. It is probable that the three indigenous wares current in the previous period (polished black, polished red, coarse) did remain in use during the period covered by stratum I; but as it was nowhere possible to check this from undisturbed levels, it has seemed wiser to omit them from the present catalogue. Some fragments of rectangular hearths of coarse pottery, not found in the deeper layers, seem to be an innovation of stratum I.

The imported pottery (pl. VI. 2) is plentiful and belongs to a period subsequent to that of the Daunian ware. Most of it consisted of fragments of amphorae, but there is also a fragment of Gnathian ware. This makes it likely that the Annexe was used as a wine cellar in Hellenistic times. It had no stratification, no hearths, nothing but dark soil intermixed with sherds. Neither bone nor metal objects were found.

The bulk of the imported pottery consisted of storage vessels, most of them amphorae (fig. 13.1 and 2). There was another type, barrel-shaped, thick-walled, and

with a marked neck. The outside has a slip of light clay. These vases are factory-made, the clay is of resounding hardness, the insides show the deep circular marks of the potter's wheel. Some are decorated in geometrical patterns of a mat chestnut brown. The surfaces of the vases are divided by horizontal and vertical stripes. Zig-zag patterns are favoured, and one sherd was decorated with what may once have been triangles.

Among the finer ware were sherds of a porous reddish clay, belonging to small beakers and cups. The beakers have cylindrical feet, the cups flat bottoms. The more elegant of these were glazed in black and red. The cups had either a hollow bottom or a stand ring. One sherd had a rosette stamped near the centre of the bottom inside a red field, the rest of the bottom is black.

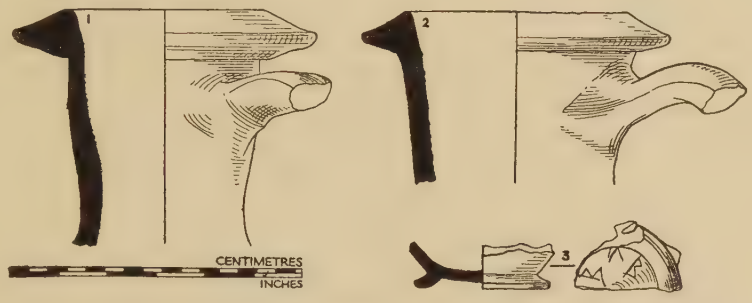

FIG. 13.—STRATUM I, IMPORTED AMPHORAE (1, 2) AND BLACK-GLAZED CUP (3).

A small fragment of fluted Gnathia ware was found, decorated with a simple pattern in white (pl. VI. 2*d*).[15] A sherd from the bottom of a little cup had some letters scratched at its back (pl. VI. 2*a*; fig. 13.3).

CONCLUSIONS

The excavations at Manaccora have presented us with material from two prehistoric strata (III and II) neatly divided by sterile layers, which make overlapping impossible. The top layer (stratum I), unprotected and disturbed, is of minor importance.

Two facts impose themselves as the most important:

(1) Each of the three strata possesses imported pottery different from that of the others and resulting from different cultural connections; at the same time the indigenous pottery develops in its own way;
(2) the quantity of bronzes found in Manaccora is unique among the excavations hitherto carried out in Apulia.

Classical archaeologists have not yet succeeded in identifying the imported sherds from stratum III. But this much seems certain: they were not taken to it as an article of trade, but must have been left behind by foreign sailors whose ships had anchored in the bay of Manaccora. This presupposes that the little bay was once used as a harbour

[15] It was given to the Berlin Prehistoric Museum.

for a village or small township near by. For this the place is well suited, since, unlike many of the other small coves, it possesses a hinterland. This is under cultivation now, and I do not know whether any finds have been made there that might indicate a settlement. It has a well with sweet water, which must equally have served the settlement on Punta Manaccora, for there is no source of water up there. It is, of course, possible that the harbour belonged to the settlement on the point. In any case foreign sailors indicate connections with the outside world, and we should consider the civilisations revealed in Manaccora from that aspect.

None of the pottery shapes found at Manaccora can be traced back to those of the earlier station at Macchia di Mare, nor is the earlier technique of decoration—incisions scratched into the surface of the vessels after baking—ever found at Manaccora. The abundant flint industry of Macchia di Mare is absent in the cave. If one looks for any sign of continuity from the old to the new, it might be found in the predilection of the Manaccora people for the polished red ware. The Macchia di Mare culture also had a red, polished pottery, together with a black and a coarse ware, although the inferior clay and finish of the polished wares make them very different from the later material. Dr. Puglisi has offered a well argued case for the perseverance of Eneolithic strains even in the Iron Age of Monte Gargano and for the complete absence of a real Bronze Age culture.[16] In so far as he means by this that the indigenous inhabitants were the same from Eneolithic times to the Iron Age, he is undoubtedly right. But the Manaccora civilisation cannot be explained simply as an outgrowth from the earlier period. It is a new civilisation superimposed upon, and taking the place of, the older one. The brilliant black pottery, with its liking for fluted bellies, turban edges, bosses, high handles, etc., is typical of the Hallstatt phase in great parts of central and eastern Europe. Into this complex the bronzes fit. No metal ore is found on Monte Gargano; copper and tin had to be imported from abroad. The connection by sea with the opposite shores of the Adriatic has always been easier for the people of Monte Gargano than communications by land. The museums of Zara, Sarajevo, Ljubljana, etc., contain much material closely related to that from Manaccora. Not all of it is published, but the *Wissenschaftliche Mitteilungen aus Bosnien und Herzegowina* show in many an article pottery with knobs, fluted bellies, and turban rims, all in a brilliant black pottery akin to that found at Manaccora. The bronzes point the same way. The long tanged blades with the shallow rounded midribs, the leaf-shaped blades (pl. IX. 2) are characteristic of Hallstatt.[17] This does not necessarily mean that the inhabitants of Manaccora had any direct communication with a country so far away, but with land of similar culture. North Apulia was not out of contact with the then civilised world during the First Iron Age. We know that at the time when the Greeks settled in the South it was inhabited by the Iapyges, who had migrated thither from the Eastern shores of the Adriatic. They were divided into many tribes, of which those living on, and south of, the Gargano were the Daunians. It must have been they who brought with them a Hallstatt civilisation, whilst the aborigines whom they superseded had remained in an Eneolithic state even during the time when other parts of Italy had adopted a Bronze

[16] S. M. Puglisi, 'Le culture dei capannicoli sul promontorio Gargano', *Atti della Accad. Naz. dei Lincei, Memorie* ser. 8, ii, 1950.

[17] Prof. van Giffen, to whom I showed my photographs, was reminded of the swords he excavated at Toscek in Hungary.

Age culture. To these primitive inhabitants might well be applied the adjective 'backward', which one hears so often in connection with the people of Monte Gargano. The Iron Age Daunians, however, were in no way behind other barbarian tribes of their time that had come into contact with Greeks, and yet kept their own individuality. If we had more excavations of Iron Age sites in Apulia, the picture gained from the Cave of Manaccora would probably lose much of its strangeness. As it is, I know of only one other place in the neighbourhood of Manaccora where an Iron Age sword has come to light. It is the one mentioned by Rellini in his catalogue of bronze swords found in Italy.[18] It was unearthed near Ordona and is a Hallstatt antennae sword.

ELISE J. BAUMGARTEL

LIST OF OBJECTS ILLUSTRATED IN THE TEXT

Fig. 1 (p. 4)	Stratum III, polished black wares (pp. 3–10).
Fig. 2 (p. 5)	Stratum III, polished black wares (pp. 3–10).
Fig. 3 (p. 6)	Stratum III, polished black wares (nos. 1–8, 12–15, 17, 18) (pp. 7–10).
	Stratum III, polished red wares (nos. 9–11, 16) (p. 12).
Fig. 4 (p. 7)	Stratum III, polished black wares, type B V (p. 7).
Fig. 5 (p. 11)	Stratum III, polished red wares (pp. 10–14).
Fig. 6 (p. 13)	Stratum III, polished red wares (nos. 1–11, 13–17) (pp. 10–14).
	Stratum III, coarse ware, type C II (p. 14).
Fig. 7 (p. 15)	Stratum III, polished red wares (nos. 13–21) (pp. 10–14).
	Stratum III, coarse wares (nos. 1–12) (pp. 14–18).
Fig. 8 (p. 16)	Stratum III, polished red wares (nos. 8, 14) (pp. 10–14).
	Stratum III, coarse wares (nos. 1–7, 9–13, 15, 16) (pp. 14–18).
Fig. 9 (p. 17)	Stratum III, miscellaneous objects:
1–3	Potstands (p. 14).
7	Loom-weight (p. 18).
8	Flint implement (p. 23).
9	Clay mould (p. 23).
10	Bone point (p. 23).
11	Glass bead (p. 22).
12, 13, 21	Pottery spools (p. 18).
14–20, 22–4	Spindle-whorls (p. 19).
	Stratum II, miscellaneous objects:
4	Potstand (p. 28).
5–6	Loom-weights (p. 28).
Fig. 10 (p. 18)	Stratum III, pottery spools (p. 18).
Fig. 11 (p. 25)	Stratum II:
1, 2, 10–13	Polished black wares (pp. 25–26).
4–9, 14	Polished red wares (pp. 26–28).
3	Coarse ware (p. 28).
15	Spindle-whorl (p. 28).
Fig. 12 (p. 27)	Stratum II, coarse wares (p. 28).
Fig. 13 (p. 29)	Stratum I:
1, 2	Amphorae (p. 28).
3	Black-glazed sherd, inscribed (p. 29).

[18] U. Rellini, 'Per lo studio delle spade di bronzo', *Bull. Paletn. Ital.* xlvi, 1926, p. 90.

ROCK TOMB AT GHAJN QAJJET, NEAR RABAT, MALTA

(Plates XII–XIV)

(i) The Tomb and its Contents

On the 22nd September, 1950, whilst workmen were digging a trench for the laying of a water main at Ghajn Qajjet, near Rabat, Malta (Malta 2″ Map. Ref. 356247) at a depth of 2 ft. 8 in. below the surface of the road, the burial chamber of a rock-cut tomb was broken into (fig. 1).

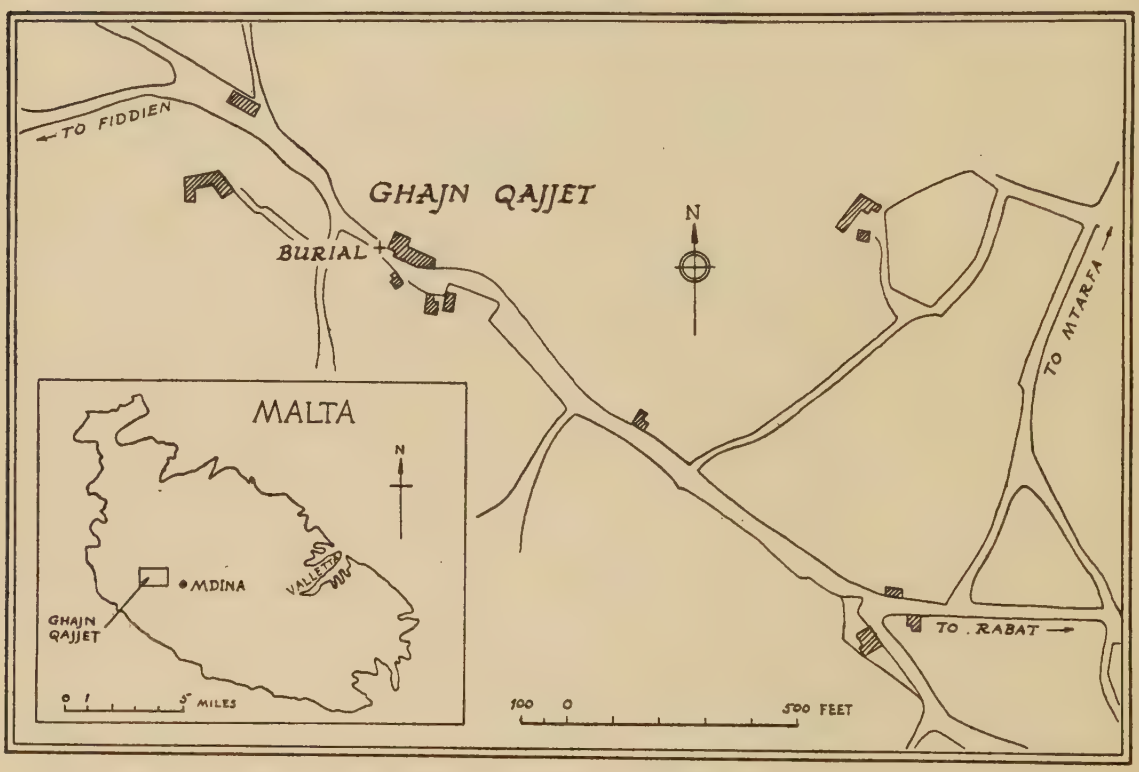

Fig. 1.

This chamber (fig. 2), rectangular in plan and with a flat ceiling, measured 12 ft. in length, 10 ft. in width, and 5 ft. 7 in. in height; its long axis ran in a north-easterly direction. A slab of Globigerina limestone (pl. XII), 6 ft. 5 in. long, 5 ft. 8 in. wide, and 5 in. thick, rested horizontally on the floor and was set with two of its sides in contact with the north-east and the south-east walls; owing to the slight inclination of the floor, being higher towards the north-east, it was propped up by roughly dressed small blocks of stone. There was also a cavity, 10 in. in diameter and 6 in. deep, cut in the

floor at a distance of 4 in. from the south-west side of the stone slab and quite close to the south-east wall of the chamber.

Access to the burial chamber was originally gained through a rectangular entrance, 5 ft. 7 in. high, 4 ft. 3 in. wide, and 1 ft. 10 in. deep, having its sill on a level with

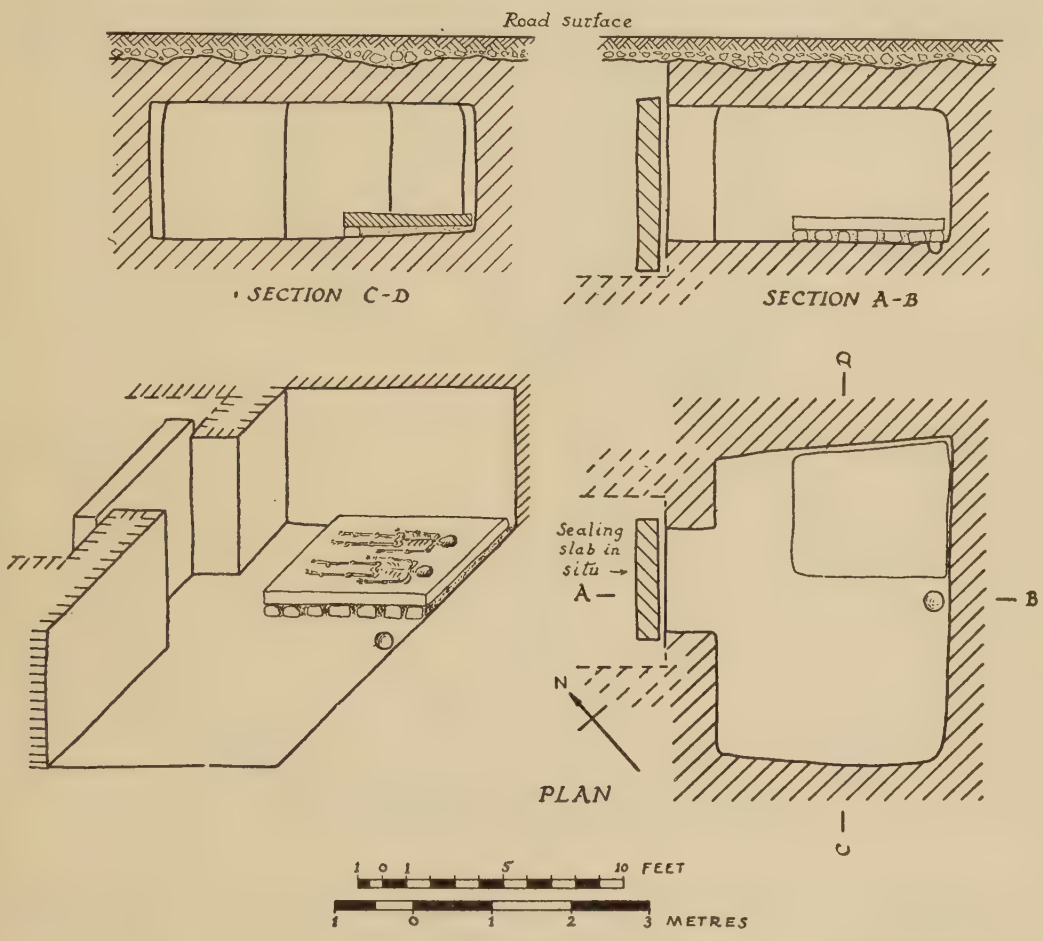

FIG. 2.

that of the floor of the chamber; it was eccentrically situated in the north-west wall, being nearer to the north corner of the chamber. The massive sealing-slab was still in position on the outer side of the entrance. The region beyond the blocking stone, presumably a rectangular shaft, was not explored as it extended across the main road.

On the platform in the burial chamber were lying side by side, in an extended, supine position, two very fragile human skeletons having their skulls pointing towards the south-east; they belonged to two adults of different sex, the female being placed on the right of the male. Other organic remains, consisting of animal ribs, pieces of a

sacrum and six caudal vertebrae belonging to an ox, were heaped on the floor near the middle of the south-west side of the platform.

Fragments of five plain bracelets, one of bronze and the others of silver, and a complete silver ring were recovered from near the right forearm of the female skeleton. Between the two skeletons were found, at the level of the forearms, fragments of two plain bracelets, one of bronze and the other of silver, three incomplete silver rings and a bead of microcline feldspar. Four key-shaped iron loops (pl. XIII, *b*), one slightly damaged, with incrustations of mineralised wood on their stem, were found, one on

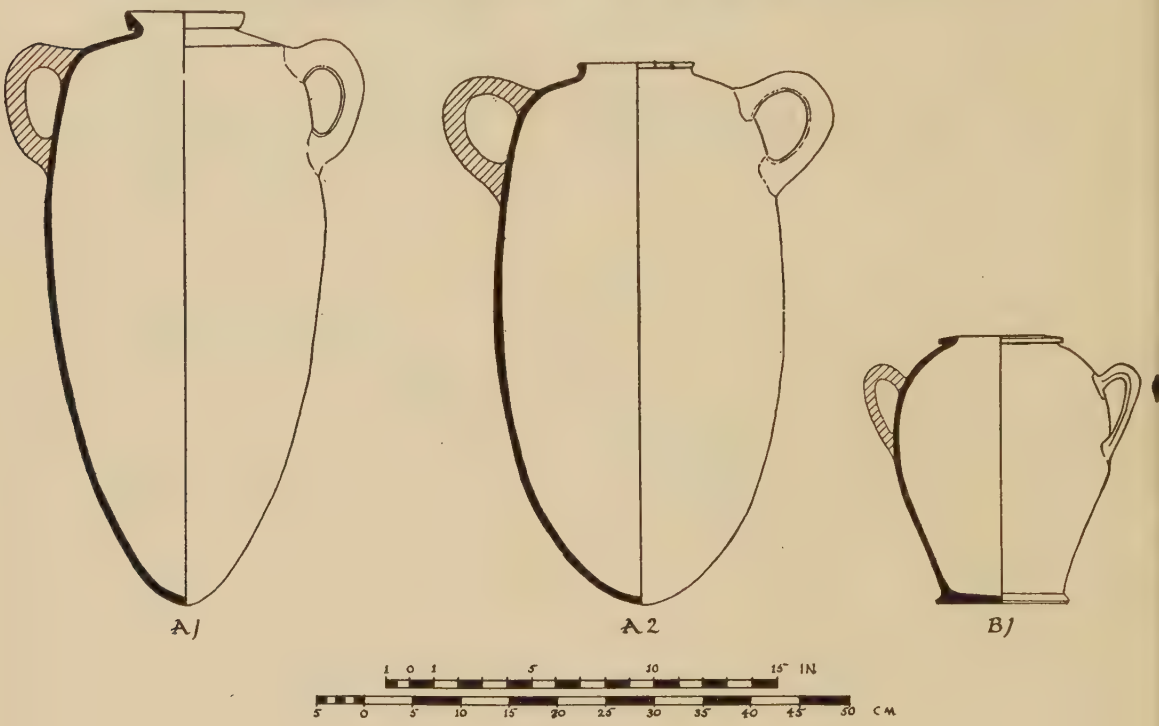

FIG. 3.

each side of the skull and two near the feet of the male skeleton; they probably served as handles for taking ropes in order to lower the coffin into the tomb. It is possible that some of these objects might have been shifted from their original position by the impact of collapsed parts of the ceiling.

The following objects were found heaped on the floor near the south-east wall of the burial chamber:

Terra-cotta.

Three amphorae:

(*a*) ht. 25 in.; damaged. Fig. 3, A 1.
(*b*) ht. 22 in. Fig. 3, A 2.
(*c*) ht. 22 in. As fig. 3, A 2.

FIG. 4.

One urn containing calcined human bones:
ht. 11½ in.; damaged. Fig. 3, B 1.

One oinochoë, ht. 7¾ in. Fig. 4, C 1.

Four jugs:
(*a*) ht. 8 in. Fig. 4, D 1.
(*b*) ht. 7¾ in. As fig. 4, D 1.
(*c*) ht. 4½ in. Fig. 4, D 2.
(*d*) ht. 4 in. Fig. 4, D 3.

Four single-handled cups:
(*a*) ht. 3¾ in., max. d. 4¼ in. Fig. 4, E 1.
(*b*) ht. 3¼ in., max. d. 4¼ in. As fig. 4, E 1.
(*c*) ht. 3¼ in., max. d. 4¼ in. As fig. 4, E 1.
(*d*) ht. 3¼ in., max. d. 4 in. Fig. 4, E 2.

Two two-handled cups:
(*a*) ht. 2⅜ in., max. d. 4¾ in., decorated with red lines and bands. Fig. 5, F 1; pl. XIV, *b*). See further pp. 39–41.
(*b*) ht. 2¼ in., max. d. 5 in., decorated with ducks and geometrical patterns in black. Fig. 5, F 2; pl. XIV, *c*. See further pp. 39–41.

Three dishes:
(*a*) d. 5½ in., with three flat triangular supports attached vertically to the underside near the rim, at equal distances from each other. Fig. 5, G 1.
(*b*) d. 5 in. Fig. 5, G 2.
(*c*) d. 4¾ in. Fig. 5, G 3.

Twelve plates:
(*a*) d. 9½ in.; damaged. Fig. 5, H 1.
(*b*) d. 7½ in. As fig. 5, H 3.
(*c*) d. 7¼ in. As fig. 5, H 3.
(*d*) d. 7 in., containing a fish vertebra. As fig. 5, H 3.
(*e*) d. 7 in. As fig. 5, H 3.
(*f*) d. 7 in. As fig. 5, H 3.
(*g*) d. 6¾ in. Fig. 5, H 2.
(*h*) d. 6½ in. Fig. 5, H 3.
(*i*), (*j*), (*k*), and (*l*) damaged.

Four bilychnis lamps:
(*a*) max. d. 5½ in., used. Fig. 5, I 1.
(*b*) max. d. 5 in., used. As fig. 5, I 1.
(*c*) max. d. 5 in., used. As fig. 5, I 1.
(*d*) max. d. 5 in., used. As fig. 5, I 1.

An object having the shape of a truncated cone, open at both ends and with everted rims: Ht. 2½ in., max. d. 4½ in., min. d. 4 in., decorated with red horizontal bands. Fig. 5, J 1.

Bronze.

The top of a lamp-stand, $5\frac{1}{2}$ in. in height (pl. XIII, *a*; fig. 6). The foot is evidently intended to be fitted over a wooden stem.

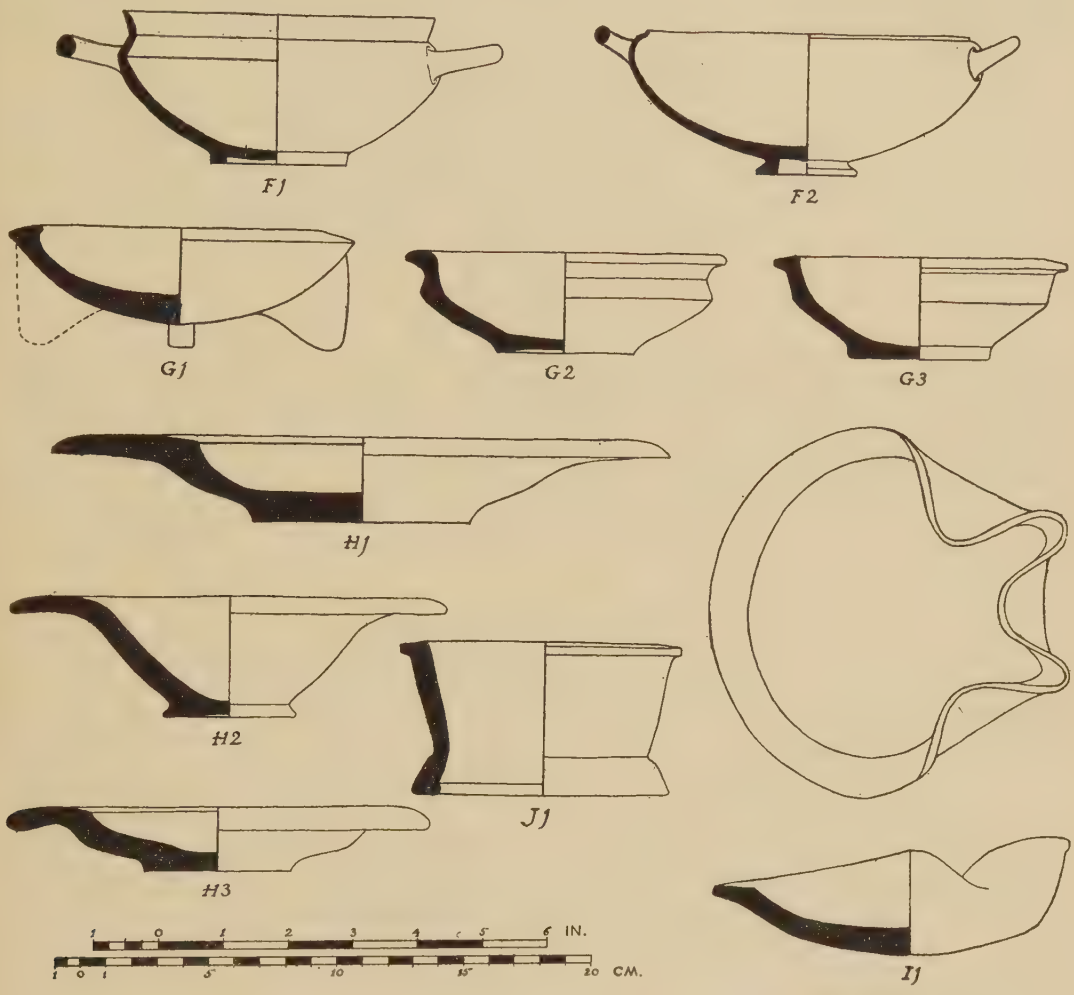

FIG. 5.

According to Mr. W. L. Brown of the Ashmolean Museum this type of specimen seems to be Cypriot of the sixth century, but might have begun in the early seventh. He cites the following representative list of parallels:

Cyprus: Murray, *Exc. in Cyprus*, 102, fig. 148.6 (Amathus grave 84, multiple, but surviving objects seem 6th century B.C.); *ibid.* 67, fig. 88 (Curium, grave 73).

Richter, *Cat. Metr. Mus. Bronzes*, 366 ff. nos. 1270–8 (Cesnola Collection: = Myres, *Cesnola Handbook*, nos. 4965 ff.; Cesnola *Atlas* III, pl. LI. 3.)

Louvre, unpublished (quoted by Blinkenberg, see below).

Sidon: Ohnefalsch–Richter, *Kypros*, pl. 43. 8.
Hamdy Bey–Reinach, *Nécropole royale à Sidon*, 90, fig. 35; *JdI* 1894, 207, fig. 1 (5th century grave).

Rhodes: Blinkenberg, *Lindos, Petits objets*, pl. 27, nos. 671–3, pp. 207–9.

Etruria: Museo Gregoriano I, pl. 48, 2 (Cervetri; illustrated upside down).

Sardinia: Cagliari 22932 (quoted by Blinkenberg).

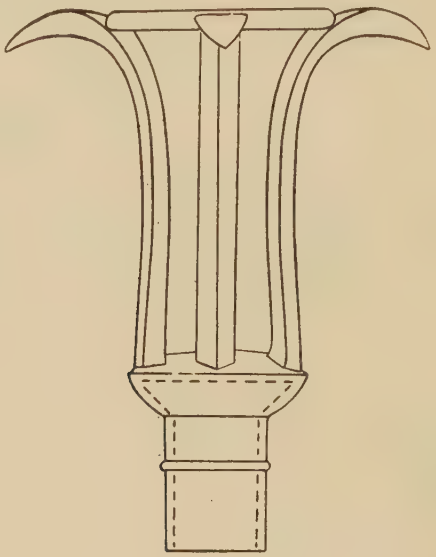

FIG. 6.

The objects recovered from over the platform were the following:

Silver.

Five bracelets:

(*a*) Elliptical, max. d. $2\frac{3}{4}$ in., circular section, $\frac{1}{8}$ in. in thickness; in fragments.
(*b*) Elliptical, max. d. 3 in., circular section, $\frac{1}{8}$ in. in thickness; in fragments.
(*c*) Elliptical, max. d. $2\frac{3}{4}$ in., circular section, $\frac{1}{8}$ in. in thickness; a fragment.
(*d*) Circular section, $\frac{1}{8}$ in. in thickness; a fragment.
(*e*) Circular section, $\frac{1}{8}$ in. in thickness; a fragment.

Four rings:

(*a*) d. 1 in., circular section, $\frac{1}{8}$ in. in thickness.
(*b*) d. $1\frac{1}{8}$ in., circular section, $\frac{1}{8}$ in. in thickness; a fragment.
(*c*) Circular section, $\frac{1}{8}$ in. in thickness; a fragment.
(*d*) Circular section, $\frac{1}{8}$ in. in thickness; a fragment.

Bronze.

Two bracelets:

(*a*) Circular, d. $2\frac{3}{4}$ in., circular section, $\frac{3}{16}$ in. in thickness; in fragments.
(*b*) Circular, d. $2\frac{1}{2}$ in., circular section, $\frac{3}{16}$ in. in thickness; in fragments.

Iron.

Four loops, key-shaped, average length 3½ in. (pl. XIII, *b*); see p. 34.

Microcline feldspar.

A bead, barrel-shaped, pale green, max. d. $\frac{7}{16}$ in. and $\frac{9}{16}$ in. in length. This mineral does not occur in Malta.

From the material found in the burial chamber it appears that this rock tomb was used at two different periods. Originally, it served for inhumation, not later than the sixth century B.C., as indicated by the type of lamp-stand and Greek vases. Subsequently, an intrusive cremation burial took place,. A date in the second century B.C. is suggested by the type of cinerary urn, which is so dated by Dr. D. B. Harden and by M. P. Cintas (*Céramique punique*, p. 131).

ACKNOWLEDGEMENTS

I wish to put on record my thanks to Mr. C. G. Zammit, for his help in the field and for preparing the photographs and drawings with which this article is illustrated; to Dr. D. B. Harden and Mr. W. L. Brown for their comments on the Punic pottery and on the bronze lamp-stand respectively; to Mr. T. J. Dunbabin, who has kindly furnished the note on the imported Greek vases that follows the present note; and to the Director of the British School at Rome for his many helpful suggestions in the course of preparing the article.

J. G. BALDACCHINO

(ii) THE GREEK VASES

The publication of this well-recorded tomb-group is of especial value because of the presence of two Greek vases, interesting both for themselves and as a contribution to the more precise dating of the Punic vases found with them. I therefore welcome the opportunity to comment on these Greek vases. As I have not seen them, I quote Mr. Ward Perkins' description of fabric:

1. Fig. 5, F 1; pl. XIV, *b*. 'Pale yellow clay, covered with a rich chestnut-red paint with a darker band at shoulder. Reserved are: bottom and inside of foot-ring; ground of decoration at and above shoulder. The pot had been considerably used in antiquity and the ornament has come away from the ground in many places.'

2. Fig. 5, F 2; pl. XIV, *c*. 'A fine, hard, light ware, about 2 mm. thick at the shoulder. Ground a pale buff, with darker paint ranging from almost dead black to brown. Interior: black except for reserved central medallion, 2½ cm. diam. Exterior: base and inside of foot reserved.'

1. This cup may, to judge from photograph and description, be Corinthian, but I should not like to say so definitely without seeing it. The most probable alternative is Cycladic (a similarly decorated Cycladic cup, *Délos* XV, pl. 27, 23).

For cups of this type at Corinth cf. S. S. Weinberg, *Corinth* VII, i, 46, on no. 157. This appears to be earlier than any of those quoted, on account of its broader foot, shallow convex bowl, and less sharply offset lip. Its profile is in these respects nearer to

the earlier cup *Perachora* i, pl. 12. 1, 121. 1 (first half of the eighth century). The heavy fabric, as well as the profile, suggests that this belongs to the eighth century. The decoration is common in sub-geometric of the seventh century, at Corinth and elsewhere, but is not unknown on simple vases of certain eighth-century date.

Some time in the second half of the eighth century is the most likely date for this cup, but the early seventh century cannot be excluded, particularly if, as is possible, it is not a Corinthian vase, but the product of some other Greek fabric.

Protocorinthian and Corinthian vases of a later date than this are not infrequent in Malta. Most of them are drinking vessels of common shapes. Those known to me are:

(i) Kotyle (skyphos), as K. Friis Johansen, *Les vases sicyoniens*, pl. 9. 6; not later than first quarter of seventh century. For the grave see *Museum Annual Report*, 1923–24, p. 3.[1]

(ii) Cup (not skyphos, as is called by Peet and Johansen) of first half of seventh century: T. E. Peet, *JHS* 1912, 96 ff.; Johansen, *op. cit.*, 88 ff.

(iii) Aryballos of middle or third quarter of seventh century, in Amsterdam: *CVA Scheurleer Coll.* i, III C, pl. 1. 4.

(iv) Pyxis lid [2] of last quarter of seventh century, now in Museum of Roman Antiquities at Rabat, Malta: A. Mayr, *Sitzungsberichte der Münchener Akademie*, 1905, 493; Peet, *loc. cit.*, 97, fig. 3; H. Payne, *Necrocorinthia*, p. 292, no. 664.

(v) Early Corinthian kotyle decorated with large rosettes, of end of seventh century or, possibly, beginning of sixth: see *Museum Annual Report*, 1926–27, p. 8.[1]

2. A cup of East Greek type, conventionally called bird-bowl; see K. F. Kinch, *Vroulia*, 133 ff.; *Délos* xv, pll. 47–8, nos. 17–35; E. R. Price, *JHS* 1924, 184 ff.; *Classification des céramiques antiques: East Greek Pottery*, p. 1; M. Robertson, *JHS* 1940, 14 ff. This belongs to the 'transitional' group distinguished by Robertson, and like *Délos* cit., nos. 23–27, has a black base and a row of dots below the picture. Others with both black base and row of dots are Oxford, *CVA* ii, pl. 1. 6; Oxford 1935. 849, from Kamiros (base lost); Aigina, *AM* 1897, 272, fig. 7; Ithaca, *BSA* xliii, pl. 44, nos. 576 and 577; Tarsus, *AJA* 1938, 44, fig. 33. The bowl from Tarsus, as Robertson mentions, was found with an aryballos of the first quarter of the seventh century, a Rhodian imitation of a Protocorinthian type; it looks earlier than the bowl from Malta. This will belong to the second quarter or the middle of the seventh century. Its design is rougher than the exquisite bird-bowls of the second half of the century; this may be due either to an earlier date or to an unprogressive workshop.

The centre of manufacture of these bird-bowls is Rhodes, but they are commonly believed to have been made also in other East Greek cities. The clay varies, and a number show the pale yellow clay of the vase from Malta. Among those with yellow clay are (I follow published descriptions for the most part):

Syracuse, from Gela; *MA* xvii, 247–8, fig. 186.

Rhegion: *NdS* 1914, 210, fig. 2.

Vatican, from Caere, Regolini-Galassi Tomb: Pinza, *RM* xxii, 132, no. 227 and

[1] I owe my knowledge of (i) and (v), and information about these and (iv), to notes and photographs kindly sent by Dr. Baldacchino.

A pyxis and lid of the first half or middle of the seventh century, and sixth-century Corinthian vases found in Malta, are also described by Mayr, *loc. cit. supra.*

[2] Lid of a kotyle-pyxis, of the shape of *Necrocorinthia*, pp. 295 ff., nos. 700–6 A (cf. R. J. Hopper, *BSA* xliv, pp. 223 ff.), as Professor A. D. Trendall has observed.

p. 131, fig. 20; Albizzati, *I vasi dipinti del Vaticano*, pl. 1, 21; L. Pareti, *La Tomba Regolini-Galassi*, pl. 49, 381.

Florence, from Vetulonia, Tomba del Duce: *CVA* i, III C a, pl. 1. 5.

From Vulci: Gsell, *Fouilles de Vulci*, XII. 8; LII. 21.

Rhodes, Ialysos LXII; *Clara Rhodos* iii, 105, fig. 99; *CVA Rodi* ii, II D e, pl. 6. 1.

Rhodes, Kamiros, Macri Langoni CXLIII, *Cl. Rh.* iv, 274, fig. 301; *CVA cit.*, pl. 6. 5.

Thera: *Thera* ii, 74, no. 33.

Yellow clay is not typical of Rhodes, but it may be that those bird-bowls of that colour found there were made there; or it may be that all the yellow bird-bowls were made in some other place or places, as yet undefined, in the East Greek area. The bowl found in Malta, though somewhat rough, seems to be of East Greek origin. Many bird-bowls have been found in Sicily and Italy. In addition to those already mentioned from Gela, Rhegion, Caere, Vetulonia, and Vulci many have been found in Syracuse (*MA* xxv, 490, fig. 82 and 531, fig. 118; *NdS* 1925, 202, fig. 37 and p. 319; *AdI* 1877, pl. CD 5); others at Narce (Montelius, *Civilisation primitive en Italie*, pl. 323. 7) and Populonia (*MA* xxxiv, pl. 14. 9 and p. 355, fig. 23).[3]

3. For the small dish on the right of the top row in plate XIV, *a*, cf. *MA* xv, 172, fig. 71; 299–300, fig. 117 *d–e*; 314, fig. 124 *e*. Mr. W. L. Brown informs me that such vases are common in Southern Etruria. This may be a Greek or Italo-Greek vase of Italian manufacture.

The difference in time between the two early Greek cups may be of half-a-century or even more. In view of Mr. Ward Perkins' observation that the older vase, the Corinthian cup, is very worn and had been considerably used in antiquity, it is likely enough that the two were deposited in the tomb at the same time. This will have been somewhere near the middle of the seventh century.

Greek vases of the eighth century have been found at Carthage: an amphora, most probably Cycladic of the second half of the eighth century (P. Cintas, *Céramique punique*, pp. 493 ff., figs. 23-4 and pll. LXV. 1, LXVI; cf. P. Demargne, *RA* xxxviii, 1951, 50); and other vases, including Protocorinthian kotylai (Cintas, *op. cit.*, pl. LXV; D. B. Harden, *Iraq* iv, 87, fig. 8 *b*) from the sanctuary of Tanit; a Protocorinthian globular aryballos (Cintas, *op. cit.*, p. 456) from a grave. So far as I know, no bird-bowls have been found there, but this may be due to the accident of discovery, for bird-bowls have a very wide distribution. It is, therefore, likely enough that the Greek vases of the eighth and seventh centuries found in Malta were brought there from Carthage. It is, likewise, possible that they came from the neighbouring Greek cities of Sicily, Syracuse or Gela. The question is perhaps not of great importance, in view of M. Cintas' demonstration (*op. cit.*, pp. 559 ff.) that the beginnings of Greek and Phoenician colonisation in the eighth century were contemporary and complementary, and more closely associated than used to be believed.

T. J. Dunbabin

[3] Another bird-bowl found in Italy is in Copenhagen, *CVA* ii, pl. 79. 7.

Another from Populonia, in Florence, associated with Protocorinthian vases of the second quarter of the seventh century, appears to be an Italian imitation.

Pinza refers (*RM* xxii, 133, n. 1) to a bird-bowl from Chiusi, but none is illustrated or described in *AdI* 1877, to which he refers. The cup *MA* xv, pl. 9. 13, is not a bird-bowl.

THE ROMAN AND BYZANTINE DEFENCES OF LEPCIS MAGNA

(Plates XV–XX)

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DURING the North African campaigns of 1941–3 numerous air-photographs of the Tripolitanian coast were taken by the R.A.F. for operational purposes, and the site of Lepcis Magna was included in the area covered. Examination of these photographs (pl. XV) showed many suggestive features relating to the defences of the ancient city, and a preliminary ground survey was later (1947–50) undertaken to establish, with a minimum of excavation, the course of the successive wall-circuits.

The results of this investigation are described below, and are discussed in relation to the historical and epigraphic evidence. It is not claimed that these results are exhaustive, or that they will not need modification in the light of future discoveries. Since, however, there is little likelihood of any early resumption of large-scale excavations at Lepcis, this preliminary study may help to illustrate the growth and subsequent decline of the city that came to be the most important centre between Carthage and Alexandria.

Considerable sectors of the Lepcis defences were brought to light during the Italian excavations of 1920–40, which also revealed two major city gateways, one late Roman and one Byzantine. These excavations were mainly confined to the monumental area on the left bank of the Wadi Lebda, and to obtain a fuller topographical picture of the wall circuits it has been necessary to study the still unexcavated area on the right bank, and to make trial trenches at a number of points. This work was carried out by the Antiquities Department of the (then) British Military Administration, in collaboration with the British School at Rome.

The writers are indebted to Professor Giacomo Caputo for permission to reproduce a plan of his unpublished excavations on the site of the West Gate, and to the Antiquities Department of the Tripolitanian Administration for photographs.

1. HISTORICAL AND EPIGRAPHIC EVIDENCE

Historical references to the city walls of Lepcis are scanty. For the earlier imperial period we have only the statement of Tacitus (*Hist.* iv, 50) that in A.D. 69, in face of the fierce Garamantes, whom the citizens of Oea had enlisted as their allies in their feud with Lepcis, the Lepcitani *intra moenia trepidabant*. This phrase may be rhetorical, but it suggests that defences of some sort existed at that date. For the second and early third

centuries, when Lepcis was at the height of its material prosperity, history is silent, the next documentary testimony being that of Ammianus (xxviii, 6), who, referring to the invasion of the Austuriani in A.D. 365, speaks of *Leptim civitatem muro et populo validam.* From Procopius (*bell. vand.* i, 5, 8) we may infer that the Vandals dismantled the walls of Lepcis; and from the same writer we learn that they were rebuilt after the Byzantine reconquest, on a reduced circuit, and that the areas of the Roman city that had been invaded by sand were then abandoned.

In addition to these literary references, there are at Lepcis a number of inscriptions that refer to the *moenia* of the city. A fragmentary marble slab found near the Market and belonging to the period A.D. 317–23 refers to the construction or repair of *civitatis Lepcimagnensium moenia quae cum sui magnitudine et splendore concordent* (*IRT* 468). A statue-base found in the Severan Basilica extols the care and energy devoted by the fourth-century *comes et praeses*, Nepotianus, to the defence of the *limes*, and adds that *civitatum moenia operum instauratione vel novitate decoraverit* (*IRT* 565). Two other *praesides* of the Tripolitan province, Flavius Archontius Nilus (A.D. 355–60) and Flavius Victor Calpurnius (*c.* A.D. 340–50) are both described as *instaurator moenium publicorum* (*IRT* 562, 569).

By the fourth century, however, the term 'moenia' was often used in a general sense to denote the buildings of a city. It is in this sense that the word appears in the *Codex Theodosianus* in a law (14. 17, 11) of A.D. 393. An inscription of the fourth century from the site of Althiburos in Tunisia (where no traces of a city wall have been found) praises an official because *inter cetera* [*beneficia etiam*] *ornamentum moenibus et salutem civibus perpetuam perductis fontibus contulerit* (*ILS* 5783). Thus Caputo[1] may well be right in interpreting the *moenia* of the Lepcis inscriptions as the public buildings generally, including the city walls, but not excluding other structures; and in these circumstances we cannot safely cite these texts as bearing on the present problem.

Our documentary evidence tells us, therefore, little more than that Lepcis had defences in A.D. 69, and again in A.D. 365, and that a new circuit was built by Justinian. For further information we must appeal to the archaeological remains. These are notable both in character and extent, and consist of the following features, which we shall examine in greater detail in the course of this paper:

(i) An earthen bank over five kilometres in landward extent.
(ii) A stone wall of some three kilometres landward perimeter.
(iii) A later stone wall, which enclosed a smaller area and was considerably modified in the course of its history.

In anticipation of our general conclusions, it may be said that the earthen rampart appears to be an emergency defensive work, probably of the first century A.D.; that the earlier of the two stone walls is of the later Roman period (third or fourth century A.D.); and that the second stone wall represents the work of Justinian, as described by Procopius, with subsequent changes of plan. Before describing these defensive circuits, some reference must be made to the accounts of the Lepcis city walls given by previous investigators.

[1] G. Caputo, 'Flavius Nepotianus', *Revue des Études Anciennes* lii, 1951, p. 243.

2. PREVIOUS ACCOUNTS

Remains of the Roman and Byzantine walls did not escape the attention of the various travellers who visited Lepcis before the Italian occupation of Libya. The anonymous Frenchman whose account,[2] written in 1670, is the earliest modern record of Lepcis, was quite explicit on the subject of the city walls. Lepcis, he relates, 'avoit environ six milles de circuit; sa figure estoit ovale, et ses murailles dont les fondemans paroissent encore fort distinctemente avoient partout six pieds de Roy d'epaisseur'.

Commander (later Admiral) W. H. Smyth, who excavated at Lepcis in 1817, wrote that 'the city was encompassed by strong walls of solid masonry pierced with magnificent gates', and his small-scale plan of the site shows these walls on both sides of the Wadi Lebda, although he made no attempt to distinguish between the earlier and later stone walls.[3] Smyth's main contribution to the study of the city's topography lay in drawing attention to the line of artificial mounds (the so-called 'Monticelli') which marked the course of the artificial canal diverting the winter torrents of the Wadi. It remained for Cowper, in 1896, to observe that these mounds could also have had a defensive significance.[4]

Heinrich Barth's description[5] of the Lepcis defences, based on observations made in 1846, is more detailed than that of his predecessors, and he does seem to have detected two successive circuits on the east side of the Wadi; but the absence of any plan makes it impossible to follow his description and historical arguments in detail. Méhier de Mathuisieulx's report[6] of 1901 gives a rough sketch-plan, showing walls on both sides of the Wadi, but without topographical precision.

The existence of one or more circuits of city wall at Lepcis was therefore fully apparent to these early travellers; but they were handicapped by the abundance of wind-blown sand, by the superficial similarity of the masonry in the two successive wall-circuits, and by the absence of any accurate survey on to which the visible portions of wall could be plotted. This latter need was admirably met, after the Italian occupation, by the 1/2,000 survey, made in 1915 by Grupelli and Alessandrini of the Instituto Geografico Militare, and appended to Romanelli's monograph on the Roman city.

In this monograph Romanelli gave the first systematic account[7] of the city wall, making full use of the new survey. Later work has, however, shown him to have been wrong in associating the high-standing sector of the earlier stone wall in the dunes west of the city with the outer line of the later wall east of the Wadi Lebda, and in thus underestimating the extent of the earlier walled city. Bartoccini excavated, in 1925, the well-preserved Byzantine gateway near the Forum Vetus, and traced the general direction of the sixth-century wall towards the Nymphaeum and the crossing of the Wadi Lebda.[8] Guidi carried the investigation a stage further by uncovering part of the earlier stone

[2] Published by P. Romanelli in *Leptis Magna*, Rome, 1925, pp. 55–6.

[3] Smyth's own account of his work at Lepcis was published by F. W. and H. W. Beechey in *Proceedings of the expedition to explore the northern coast of Africa*, London, 1828, pp. 72–8. His plan of the ancient city appears as an inset to Admiralty Chart No. 247.

[4] H. S. Cowper, *Hill of the Graces*, London, 1897, pp. 194–200.

[5] H. Barth, *Wanderungen durch die Küstenländer des Mittelmeeres* i, Berlin, 1849, p. 313. The three transverse walls, built 'in the true Phoenician style', observed by Barth crossing the western mole of the harbour, are in fact part of the massive Severan harbour-works, and had no defensive function.

[6] *Nouvelles Archives des Missions Scientifiques* x, 1902, p. 256 and pl. I.

[7] Romanelli, *op. cit.* pp. 83–8.

[8] R. Bartoccini, 'Il recinto Giustinianeo di Leptis Magna', *Rivista della Tripolitania* ii, 1925, pp. 63–72.

wall on the west side of the city, and thus revealing its different constructional character.[9] Finally, in the years immediately before the war, Caputo completely uncovered the west gate (sometimes referred to as 'Porta Oea') of the earlier stone wall. On the right bank of the Wadi the remains of the two wall-circuits seem to have attracted little attention; nor has the defensive character of the 'Monticelli' been discussed by any writer after Cowper.

3. THE EXTANT REMAINS

In the following description of the successive defensive circuits of Lepcis, individual towers, gateways, and other features have been allocated numbers, preceded by a letter indicative of the circuit to which they belong (fig. 1). Thus Tower A 1 and Gateway A 2 belong to the earlier stone wall, whereas Tower B 1 and Gateway B 3 belong to the later (Byzantine) stone wall. It must be stressed, however, that the towers and gateways so denoted are those that have been excavated or are visible on the surface. It is beyond doubt that numerous other towers and posterns await discovery; and the present system of numbering is adopted for purposes of convenience only, and lays no claim to being definitive.

In describing the course of the walls, we have followed Romanelli's system of using the 'spot-heights' of the Grupelli–Alessandrini survey as reference-points. This survey is extremely accurate, its compilers having taken pains to include every visible fragment of wall, and it will long remain the basic record for those parts of Lepcis that have not been extensively excavated. Owing to its large scale, however, it excludes the course of the great outer bank, of which the 'Monticelli' sector figures in the earlier 1/10,000 survey, made by Grupelli and Giua in 1914, and reproduced by Aurigemma.[10] For the eastern sector of the great bank no large-scale survey exists, but its course is clearly indicated on the air photograph here reproduced (pl. XV).

(i) *The Great Earthen Bank* (pl. XV)

A line of low hills, called the 'Monticelli' by the Italian soldiers who fortified them in 1912, runs along the inland side of the coastal plain behind the site of Lepcis, linking the Wadi Lebda with the smaller Wadi er-Rsaf. These hills are the denuded remains of a continuous mound formed by the soil excavated from the ancient canal on its inland side. At the point where this canal leaves the Wadi Lebda, a massive concrete dam, supported by large buttresses, still stands almost intact. The wadi, formerly diverted into the canal by this dam, forced its way, in late antiquity, past the eastern edge of the dam and resumed its old natural course, meeting the sea at the entrance to the Roman port of Lepcis.

The canal, first observed by Smyth in 1817, has been fully discussed by Romanelli,[11] who has described both the dam, and the concrete Roman bridge that spanned the canal bed near the centre of its course, where an abandoned Italian redoubt now sits astride the Monticelli. Cowper, as we have already noted, suggested that the Monticelli mound might have served a defensive purpose, and this hypothesis has been completely con-

[9] G. Guidi, in *Africa Romana* (Istituto di Studi Romani), Milan, 1935, pp. 240–1, and pl. XVI.

[10] *Notiziario Archeologico* i, 1915, p. 64.

[11] Romanelli, *op. cit.* pp. 70–4.

firmed by the air photographs taken in 1942. These show that the line of the Monticelli is continued, east of the Wadi Lebda, by a low bank, which can be traced, following a

FIG. 1 (for the Byzantine defences, see also fig. 4).

polygonal course, as far as the high ground, overlooking the sea, on which the Italian Fortino Vittorio Emanuele is sited. This eastward continuation of the Monticelli can have no possible connection with the diversion of the Wadi Lebda, for there is no canal fronting it and the ground rises sharply at the seaward end. Its function can only have

been defensive.[12] In its present greatly eroded state it is some ten metres broad at its base and up to two metres high; there are no clear indications of breaches where the Roman roads passed through it.

The total landward perimeter of the circuit comprised by this eastern bank, by the Monticelli themselves, and by the eastern bank of the Wadi er-Rsaf, is about 5·5 kilometres; and, of the area (425 hectares = 1050 acres) enclosed, less than half was ever fully built up during the period of the city's greatest expansion. Between the built-up area and this great defensive rampart intervene some of the cemeteries of the Roman city, including tombs that range in known date from the early Empire to the beginning of the third century.

The construction of the canal to divert the Wadi Lebda torrents into the Wadi er-Rsaf must have occurred in or before the reign of Hadrian, since it was under that emperor that an aqueduct was constructed in the old bed of the Wadi Lebda to communicate with the new Baths.[13] This aqueduct could hardly have been so sited if the Wadi still flowed down its old course. In the present state of knowledge, the canal cannot be more closely dated. Nor is its date strictly relevant to that of the Great Bank, since there is no reason to suppose that canal and bank are contemporaneous, and no evidence to indicate which was the earlier. It could be claimed that the choice of so large a circuit for the defences was conditioned by the pre-existence of the canal; but, conversely, it might be argued that the actual line chosen for the canal presupposes that a bank and ditch already existed.

The problem might perhaps be solved by careful stratigraphic sections across the Monticelli, to ascertain whether there are traces of an early bank underneath the spoil-heaps from the canal; but the character of the local soil makes it unlikely that conclusive evidence would easily be found. Meanwhile, it must be remarked that the circuit of the Great Bank is far too large to be interpreted as a normal urban defence-work, and that, on historical grounds, it is difficult to envisage an earthwork of this sort being thrown up at any time between the end of the first century and the fall of the Severan dynasty. The most likely explanation is that this rampart was thrown up in haste, as an emergency measure, during the crisis of A.D. 69, when the city was threatened by the Garamantes (or, possibly, on some similar occasion that has not been recorded); and that it was intended to shelter not only the resident population of the city, but also refugees from the countryside. One thing is certain; it was never recognised by the second- and third-century citizens of Lepcis as a formal city boundary. They buried their dead inside its circuit.

(ii) *The Late Roman Land Wall* (pls. XVI *a* and *b*, XVII and XIX *c*)

The earliest stone defensive wall of which any traces have been found at Lepcis follows a course that is, in general outline, similar to that of the Great Bank: its landward circuit is, however, smaller—approximately three kilometres, and encloses an area of 130 hectares (325 acres). This wall, which may be attributed to the third or fourth

[12] The antiquity of this bank has been questioned by Romanelli (*Archeologia Classica*, iv, 1952, pp. 100–2), whose suggestion that it was thrown up by Italian soldiers in 1912 has been answered by the present writers (*ibid.* pp. 284–6).

[13] *IRT* 357, of A.D. 119–120, found near the cisterns behind the Hadrianic baths. The baths themselves were not completed and dedicated until six or seven years later (*IRT* 361).

century A.D., can be distinguished from the Byzantine defences by its larger perimeter, by its standard width of 1·75 metres (20 centimetres narrower than its successor), and by the fact that it consists of two faces of dressed masonry, with a rubble core (pl. XIX *c*). It is, in fact, of a construction very inferior to that of Justinian's builders, who normally used large blocks throughout the thickness of the wall, and whose mortar was far stronger.

The wall, which is built throughout of re-used materials, survives in good condition only among the dunes on the west side of the city, where the loose sand has deterred stone-robbers. In the flatter, cultivated areas on both sides of the Wadi Lebda it has been extensively quarried, probably both in late antiquity (under the Vandals, and during the construction of the new Byzantine defences) and in more recent times. Its circuit can, however, be traced by surface indications for most of its course; and its line

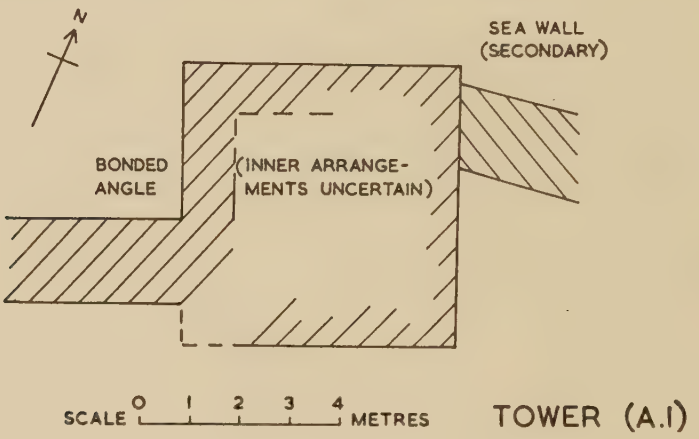


FIG. 2.

on the east side of the Wadi Lebda appears not only in the recent air photographs, but also (although the fact has not previously been noted) in the Grupelli–Alessandrini survey. Our own trial trenches removed any surviving doubts as to the general course of this wall, although the central sector—close to the modern main road—has still to be located.

The wall begins on the beach (point 9.17), some 250 metres east of the Hunting Baths, where a square tower was uncovered by Guidi (pl. XVI *a*). This tower (A 1) marks the junction of the main landward circuit and of a sea wall, which is probably of later date. The curtain on the landward side is bonded into the tower; but on the seaward side the curtain is of inferior materials and abuts, with a straight joint, against the face of the tower (fig. 2). The distinction between late Roman and Byzantine masonry, however, is not at all clear along the sea frontage of the city, and the whole problem of the sea wall will be discussed separately (pp. 68–9).

From this tower, the wall curves gently in a south-westerly direction, still standing nearly 6 metres above the ancient street level, until it meets the line of the broad street

that runs north-west from the Arch of Septimius Severus. At a point (A 2) midway between the beach tower and the intersection with this street, the late Professor Guidi cleared the sand away from both outer and inner faces of the wall, in the hope of finding a gateway for the Roman street that runs west from the 'House of the Orpheus Mosaic'. He found, however, that the defensive wall,[14] thirteen courses high, ran, uninterrupted, across the line of the earlier street: the excavation was therefore abandoned, and is now partly re-covered by sand.

Although there may well have been a subsidiary gate, or gates, in the section of the wall just described (the Hunting Baths, for example, certainly remained in use well into the fourth century, and may be presumed to have had some more convenient access to the city than the West Gate), there can be no doubt that the main entrance into the walled city from the west was the gateway (A 3) that spans the main transverse street of the town (the so-called 'Decumanus Maximus'). This gateway (sometimes referred to as the 'Porta Oea') incorporates the considerable remains of an earlier monumental arch, dating probably from the second quarter of the second century A.D. The upper part of this arch has always been visible among the dunes, and it is marked on the 1915 survey; but it was not until 1941 that it was cleared by Caputo; and, since it still awaits detailed study,[15] it must here be described briefly in its original form, if its conversion into a city gate is to be understood.

In plan (fig. 3), the arch was a modified version of such familiar monuments as the Arch of Titus in Rome and the Arch of Trajan at Ancona. It differs from these, however, in the more slender proportions of the flanking piers, which are barely 2 metres wide, as against a carriageway that is 6 metres wide and 8 metres long. These proportions were probably due to limitations of space (none of the lower mouldings, at any rate, seem to have been carried round the two outer, north and south faces); and, as a result, instead of four columns or half-columns on either face, one pair at the outer angles of the monument and one pair flanking the carriageway, there are here only two, set symmetrically in the middle of the two flanking faces. The plinths on which the columns stand are engaged to the main piers, and the mouldings are continuous with those of the carriageway, but the columns themselves are free-standing, with a responding fluted pilaster set against the actual wall-face. The material of which the arch is built is a rather coarse grey, or greyish brown, limestone from the quarries of Ras el-Hammam, with a concrete core to the barrel vault of the arch. The quality both of the stone itself and of the masonry is markedly inferior to that found in the public monuments of first-century Lepcis, but closely resembles that of the great Hadrianic Baths; and, although the decline in quality may be due in part to the exhaustion of the magnificent first-century quarries, it certainly reflects also the increasing use of overall marble veneers and the substitution of marble for limestone in columns, capitals, bases, and entablatures. In this case, the columns are of Carystian marble (*cipollino*), and a substantial part, at any rate, of the other ornament is in Pentelic. The ornament[16] is irrelevant to the present

[14] Photographs (now in the archives of the Department of Antiquities at Tripoli) taken during these excavations show that both outer and inner faces of the city wall were reasonably well coursed with large re-used blocks. A funerary inscription (*IRT* 692) of second-century or early third-century date was found built into the inner face.

[15] Romanelli's description (*Leptis Magna*, pp. 83–5) was written when only the upper part of the arch protruded from the dunes.

[16] *JRS* xxxviii, 1948, pl. VIII, 4 (mistakenly attributed to the Severan Age; but see *ibid.* p. 160); G. Caputo, *Archeologia Classica* i, 1949, pp. 86 ff.; *Fasti Archaeologici* iii, 1948 (1950), 3485, fig. 82.

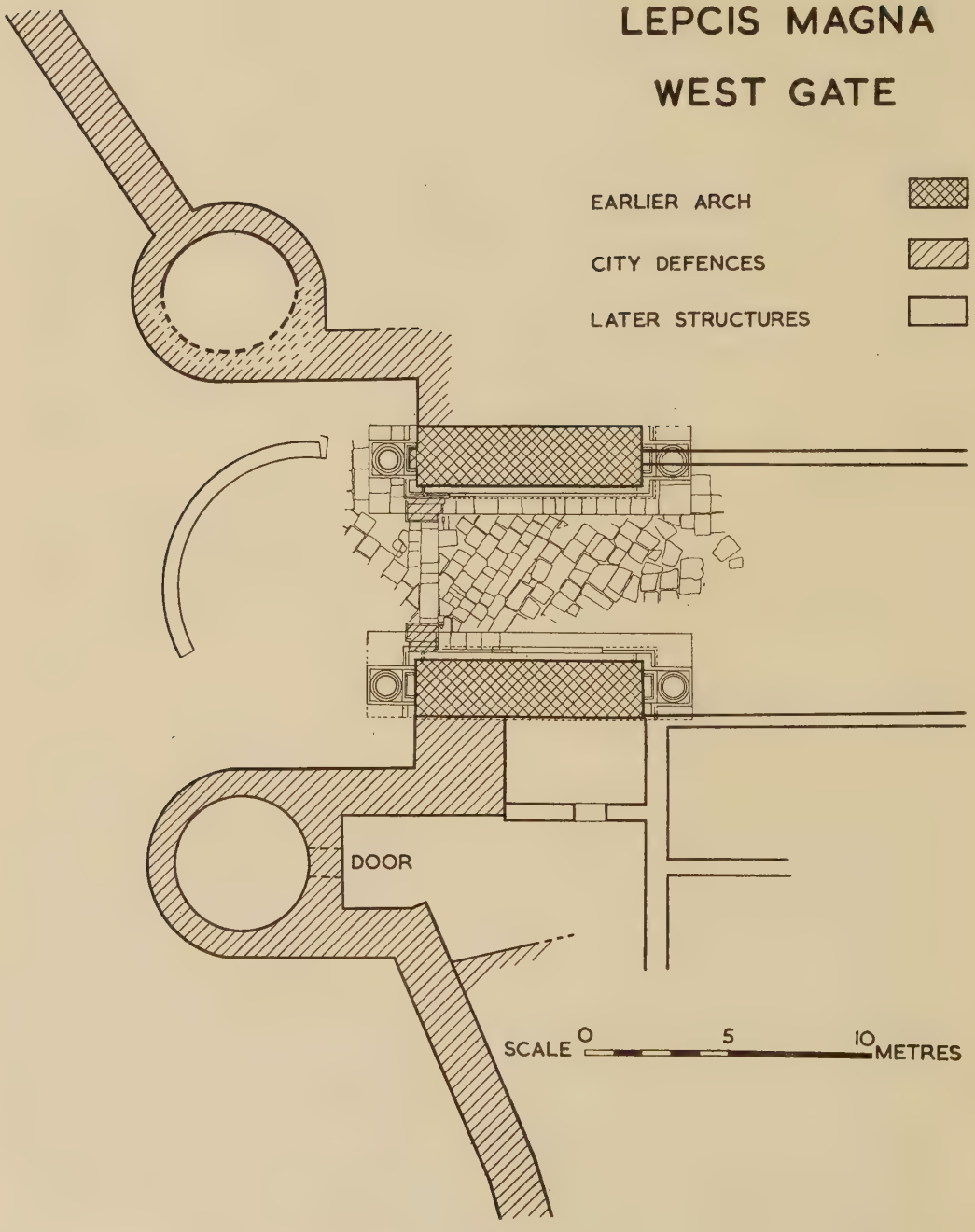

LEPCIS MAGNA
WEST GATE
EARLIER ARCH
CITY DEFENCES
LATER STRUCTURES
DOOR
SCALE 0 5 10 METRES

FIG. 3.

discussion, except in so far as it shows that the arch cannot be later than the middle of the second century A.D., if indeed it is as late. Since the materials of which it is constructed[17] and the use of free-standing columns in place of the engaged half-columns of first-century usage[18] combine to indicate a date after Trajan (who was honoured elsewhere in Lepcis by a fine *quadrifrons* arch, built entirely of the best Ras el-Hammam limestone, without any use of marble), there are good grounds for attributing the West Gate Arch either to Hadrian or, possibly, to Antoninus Pius.

So far as one can tell from the present state of the remains, the arch itself was very little altered when it was incorporated into the city walls to serve as part of the main west gate. The flanking walls of the gate are built up against the plain north and south faces of the arch, without any bond; and, if there were any modifications to the superstructure, they have left no trace. Only the carriageway was narrowed by about 2 metres, by the insertion, flush with the outer (west) face, of a pair of monolithic jambs of brownish-yellow limestone, from the quarries (as yet unidentified) that were opened to serve the great Severan building programme. These jambs taper slightly inwards, and the space between each jamb and the adjoining face of the arch is filled with a packing of small squared stones. The lintel has gone, but the sockets for the hinges of a pair of gates are preserved. Both jambs were at some time faced with sections of fluted marble pilasters, taken from the inner (east) face; but this rather incongruous embellishment may be a later addition.

The defensive scheme adopted by the architects of the wall is one that was common at all periods, including late antiquity, and consisted essentially of setting the actual gateway at the base of a forecourt, the flanks of which were covered by a pair of strong, projecting towers. In the present case, the scheme was somewhat complicated by the obliquity of the wall to the line of the street and of the arch. The rectangular forecourt is almost exactly, and the towers approximately, symmetrical about the line of the street; but, whereas the north tower lies directly across the line of the adjoining curtain wall, the south tower projects altogether about 8 metres in front of the corresponding south curtain. So far as we can tell, the towers were structurally independent of the arch, cylindrical externally, and squared wherever they abutted on the curtain wall. It was presumably the enforced lack of symmetry, coupled with the fact of incorporating an already existing arch, that determined the architect's choice of this rather unusual disposition. Normally towers, forecourt, and gateway form a single, homogeneous unit. The Lepcis gate, however, represents an easy and, in the particular circumstances, logical extension of the sort of defensive scheme that we can see, for example, in some of the gates of the Aurelian walls of Rome, notably in the second phase of the Porta Appia, which is attributed by Richmond to the time of Maxentius.[19]

The masonry of the gate is indistinguishable from that of the adjoining stretches of curtain wall, except that inside the towers it is not brought to an ashlar face. Instead, the wall face consists of headers, roughly coursed to correspond with the courses of the outer face, and alternating with a packing of loosely jointed rubble. The lower chamber of the south tower was entered by a doorway on the inner face, the lintel of which is

[17] For the use of marble in Tripolitania, see *JRS* xli, 1951, pp. 89–104.

[18] D. S. Robertson, *Handbook of Greek and Roman Architecture*, Cambridge, 1945, p. 293.

[19] I. A. Richmond, *The City Wall of Imperial Rome*, Oxford, 1930, p. 141.

just exposed above the sand, and there was presumably a similar door, now buried, in the north tower. Whether there was any direct access to the towers from the rampart-walk, or to the latter from street-level, is uncertain.

In late antiquity the whole of the south-western quarter of the city began to be invaded by the mobile sand dunes with which it is still very largely covered. The date when this threat began to make itself felt has yet to be determined. It must in any case have been a gradual process, and its effects were closely linked with those of the disastrous floods that followed the breaking of the dam above the city on the Wadi Lebda. Together, sand and flood did much to accelerate the decline and eventual abandonment of the city, which was such that, by the early sixth century, Procopius could describe it as 'largely buried in sand'.[20] For a time, however, efforts were made to keep the main streets open, by blocking doorways and by building retaining walls; and to this phase of the city's history must belong the two lofty retaining walls that flank the street on either side, immediately inside the gate. That on the south side (a substantial section of which has fallen since excavation) is part of a complex of late walls, which abuts against the south face of the arch, whereas the corresponding wall on the north side strikes off from the middle of the north pier, overriding and sealing in position the bases of the *cipollino* columns and of the responding pilaster. It may have been on this occasion that sections of the pilaster were used to decorate the jambs of the outer gateway. On the same occasion, or soon afterwards, a semicircular wall was built in the forecourt, in a last despairing effort to keep the sand at bay. A narrow passage was left open between it and the north wall, sufficient to admit a pedestrian (the south side is still partly buried). The whole of this quarter must have been finally abandoned very shortly afterwards.

South of this gateway, the wall contains an extremely high proportion of re-used architectural elements, taken from tombs[21] (pl. XVI *b*), and gradually loses height, to disappear altogether where the dunes give way to cultivable soil some 100 metres south of the gate. Its line is, however, continued by a slight mound serving as a field-boundary and running from north-east to south-west (from point 14.6 to point 13.7). At its south-west extremity, this mound makes a right-angle bend, and can then be traced for some distance towards the south-east.

In order to confirm that the right-angled mound at point 13.7 did in fact mark the corner of the city wall, two cuttings were made in 1948, one on each side of the angle (A 4), and in both cases wall-masonry was found. In the cutting south-east of the angle three courses of each wall-facing were still standing, the whole being 1·75 metres wide. There can, therefore, be no reasonable doubt that at this point the wall turned south-eastwards, converging gradually with the line of the modern 'Litoranea' road, and enclosing the inland side of the city. Its line, visible for some 280 metres as a mound, passes close to the wind-pump that supplies water to the Museum, but disappears before it reaches the entrance lodge of the Excavations. A trial trench cut in the open field immediately west of the lodge was inconclusive.

From this point eastward to the Wadi Lebda, no further traces of the wall are visible,

[20] Below, p. 71.

[21] This sector of badly laid, unpointed, and unsuitable material may represent a later repair, as it is distinctly inferior to the wall masonry between the West Gate and the sea.

and there is known to be a very deep overburden of sand above the Roman street-levels. Extensive excavations would be required to locate the South Gate (A 5), on the main road running south-west from the Arch of Septimius Severus to the bridge over the canal of the Monticelli.[22]

The next vestiges of the wall appear on the east side of the Wadi Lebda, close to the junction of the modern Litoranea and the track that leads down to the beach. Here (point 10.5) there are some massive constructions (A 6) built of re-used materials, which included the tombstone of C. Avillius Marsus (*IRT* 633) inscribed in typical Severan style. It is probable that these remains mark the site of a tower on the wall line, which here becomes apparent as a low mound curving gradually away from the modern road, and heading for the prominent mausoleum of Gasr Shaddad. The general course of this mound is quite clear, both from the air and on the ground, but remains of ancient tombs and post-classical field-boundaries complicate the topography.

The prolongation of the main Roman street from the Severan arch cuts the line of the defensive wall at a point (A 7) close to the modern road-house ('casa cantoniera') on the Litoranea, and hereabouts must have stood the ancient East Gate, of which no surface traces are visible. The course of the Roman road, still following the same alignment, appears again in the oasis between Lepcis and the Wadi Hasnun, outside the perimeter of the Great Bank.[23]

The Mausoleum of Gasr Shaddad (point 14.4), the only upstanding monument in this part of the necropolis, is only a few metres outside the wall line (A 8), and its survival may be due to its having been adapted as a watch-tower of the defensive circuit.[24] Immediately south-east of the hill of Sidi Yusef (now crowned by the ruins of the Ridotta Settimio Severo) the line of the wall enters an area of sand, and the high dune piled up against it has ensured its better preservation. A section cut here in 1947 (A 9, point 15.18) exposed the usual 1·75 metres width of wall, the inner and outer faces of re-used blocks being better selected and coursed than is usually the case.

From A 9 the line of the wall, clearly visible, heads due north towards the beach, and the line of a ditch outside it is well defined, especially on the air photograph (pl. XV). It meets the shore some 250 metres east of the east mole of the Severan port, in an area where some massive structures—now much denuded—stood along the beach. The final mound (A 10, point 15.85) on the wall line may mark the site of a terminal tower corresponding to the tower (A 1) at the western end of this land-wall. In this area, however, there are no signs of a sea wall, and if such was required, it could have been improvised out of the walls of the earlier structures on the shore. The two major problems that arise from our survey of this earlier stone wall are those of its date, and of the way (if any) in which the seaward frontage of the city was defended. These problems are discussed on pp. 68–9, and 70–1.

[22] This road was the '(via) ab oppido in mediterraneum' laid out by the proconsul Aelius Lamia, *c.* A.D. 14–17 (*IRT* 930). Its importance was increased in the Severan period and later, when it became the main line of communication in rear of the *limes*.

[23] For the ancient topography of this extra-mural region, as revealed by recent air photographs, see *Reports and Monographs of the Department of Antiquities in Tripolitania* ii, 1949, p. 38 and plan 2.

[24] Gasr Shaddad, described by Romanelli (*Leptis Magna*, p. 163 and fig. 90) is the only relatively well-preserved mausoleum in the eastern necropolis of the city within the great bank. In the same area there are the bases of numerous similar monuments, which were probably stripped of all usable materials in late antiquity.

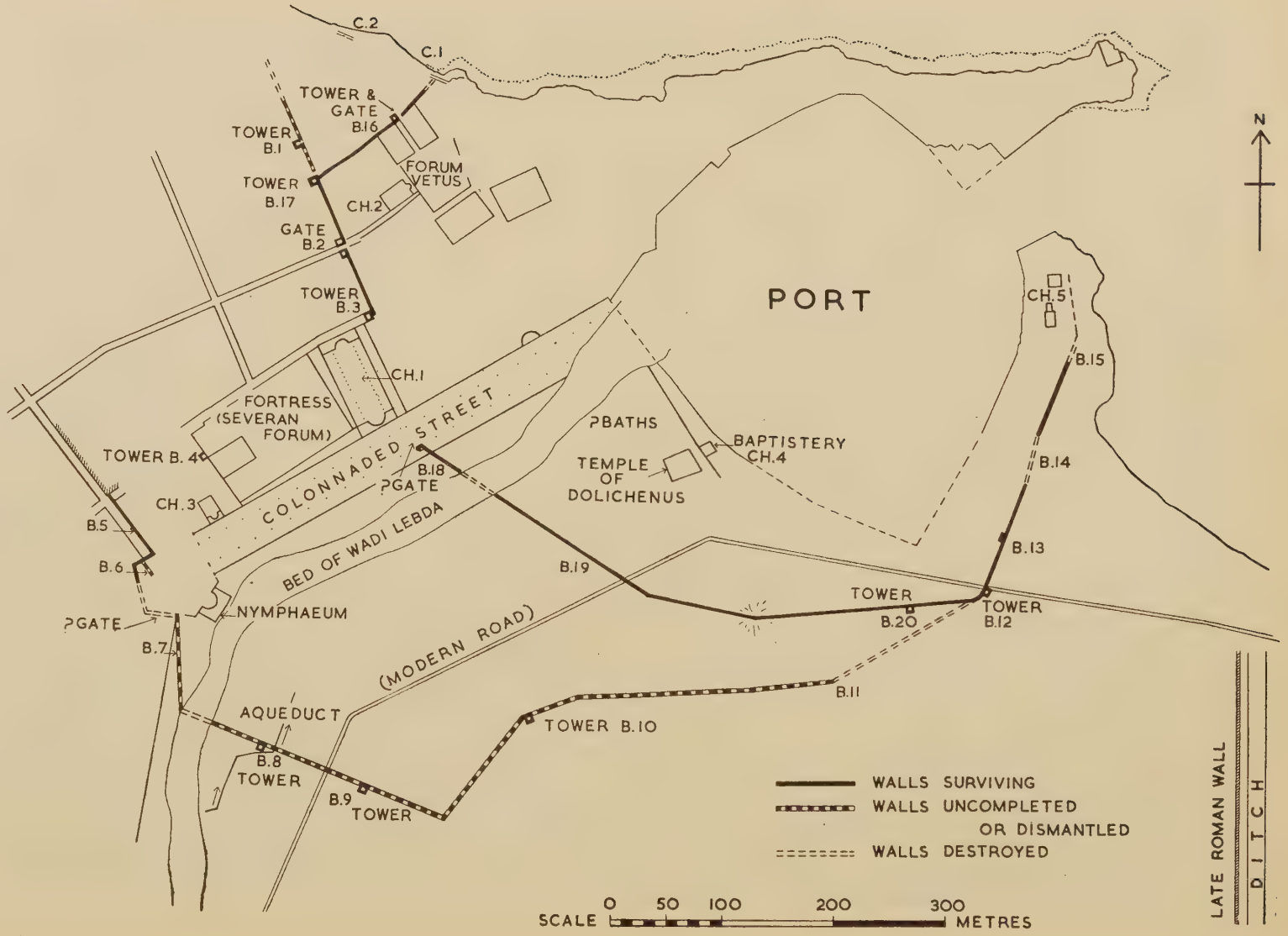


FIG. 4.—LEPCIS MAGNA—BYZANTINE DEFENCES.

(iii) *The Byzantine Defences* (pl. XVI *c*, XVIII, XIX *a* and *b*, XX)

The Byzantine military authorities who planned the new fortifications of Lepcis after the reconquest of Africa made no use of the landward circuit just described. Only along the seaward frontage of the city were they able to take advantage of an earlier defensive circuit (see p. 69). Elsewhere they built an entirely new wall, except where the massive structure of the Severan Forum served their purpose sufficiently well. In one or two other areas, too, they were able to use pre-existing features, as is shown by the way in which the Byzantine wall-sector B 5 abuts against a strong if roughly constructed wall built in late antiquity along the south-west frontage of Regio IV, insula 1 (p. 69; cf. pl. XX *b*).[25]

The Byzantine defences are distinguishable from the earlier ramparts not only by the smaller area that they enclose, but also by their dimensions and method of construction. The new city wall was normally 1·90 metres broad, resting, where necessary, on a strong concrete foundation 2·20 metres broad. Its superstructure is of solid masonry, built of re-used but carefully selected blocks of limestone and sandstone, and cemented with a powerful lime mortar consisting mainly of crushed sea-shells. This characteristic shell-mortar is very distinctive, and often reveals the line of the defences even when only a few blocks of stone protrude above the surface of the ground. In the whole excavated zone of Lepcis, mortar of this type is only encountered in the Byzantine defences, and in the wall that surrounds the cruciform Christian baptistery in the Forum Vetus, itself also of the reign of Justinian.[26]

There is no indication of a ditch fronting the Byzantine town wall, except possibly on the east side of the Wadi, in the sector B 10–11, and even there the traces are uncertain. It must be recalled, however, that to dig a ditch anywhere on the west bank of the Wadi would have necessitated arduous work of demolition amongst the earlier buildings. It was probably deemed sufficient to strip these for the materials they afforded and to overturn any ancient walls that remained to obstruct the field of vision from the ramparts of the new defences.

Unlike the two earlier circuits, the Byzantine defences have a somewhat complex lay-out (fig. 4), the result of incorporating and adapting such earlier buildings as the Severan Forum complex, and of successive modifications of plan. On both sides of the great Severan Colonnaded Street that led down to the Port, we find some sectors of the Byzantine town wall that were evidently in use up to the time of the Arab invasions, and others that had been abandoned and partly dismantled long before that event. In all, five elements of the Byzantine defences can be recognised, as follows:

(A) *North of the Colonnaded Street*

(1) Primary wall, running in a straight line from the sea-shore north-west of the Forum Vetus to the north-east corner of the Severan Basilica block. (Sector B 1–3)

[25] During the Vandal period, after the dismantlement of the earlier city wall, various structures in the main built-up area of the city seem to have been strengthened for purposes of local defence. One isolated defensive wall stands just outside the south wall of the Market, and numerous walls of similar character were found by Caputo during the excavation of the Theatre. The latter building, one of the most high-standing in the city, may have continued to serve as an extramural redoubt during the Byzantine occupation.

[26] This, and other Christian monuments of Lepcis, are described in Ward Perkins–Goodchild, 'The Christian Antiquities of Tripolitania', *Archaeologia* xcv, 1953.

(2) Secondary wall, running north-eastwards to the sea from a point midway along the primary wall, the northern half of which was then dismantled. (Sector B 17 to C 1)

(3) Modifications to the Severan Forum, converting it into a fortress, and adapting its outer walls as part of the defensive circuit. Also an isolated sector of curtain wall in the area of the Severan Nymphaeum. (Sector B 4–6)

(B) *South of the Colonnaded Street*

(4) Primary wall, running from the south side of the Severan Nymphaeum, across the present bed of the Wadi Lebda, and thence to the northern end of the east mole of the Port. (Sector B 7–15)

(5) Secondary wall, running from the Colonnaded Street, south of the Severan Basilica, towards Tower B 12 of the primary wall, the outermost sector of the primary wall being then dismantled. (Sector B 18 to B 12)

Although these walls represent two, possibly three, phases of fortification, there is a remarkable similarity of dimensions and of constructional technique in all sectors—a fact which suggests that the interval between the first and last phases was short. There is little difficulty in distinguishing between those sectors that were dismantled and those that remained in use until the end: in the case of the latter, wind-blown sand has piled up against the still high-standing walls, whereas the former are uniformly stripped of stone down to the first or second course above the foundation.

(1) *The primary wall, north of the Colonnaded Street* (B 1–3) (pl. XVIII). As originally laid out, this sector of the Byzantine town wall ran in a straight line, probably from a point on the shore a little west of the Temple of Neptune (near point 5.95), in a south-easterly direction towards the north-east corner of the Severan Basilica. The northern half of this straight alignment was later dismantled, and there are therefore no surface indications, but the Italian excavations brought to light the dismantled tower B 1 (near point 7.2), of which only one course of masonry survives above the foundation. From the site of the later tower B 17 (see below) southwards, the wall remained in use and intact, and a high mound marks its line. The wall has been completely cleared (by Bartoccini in 1925) at its crossing of the 'Cardo', immediately south of the Forum Vetus.

The gateway (B 2) which stood at this point (13.77) is one of the most notable monuments of Lepcis, and may be compared with Solomon's gate at Theveste, or with the contemporary gate of the fort at Madaura. It consists (pl. XVIII, fig. 5) of a single portal, 2·5 metres broad and 6·5 metres high, flanked by two rectangular towers, accessible from the inner face of the city wall by means of arched doorways. Narrow light-slits, serving also as loopholes, illuminated the interior of the towers, which seem to have been roofed with barrel-vaults.

The gate itself has a threshold of stone blocks, 50 cm. above the level of the Roman street-paving, from which it may be inferred that an accumulation of sand and debris covered this paving in the sixth century. A flat arch of joggled voussoirs, originally backed by a barrel vault, spans the entrance passage. A stone staircase, constructed against the inner face of the wall, close to the south tower, gave access to the parapets;

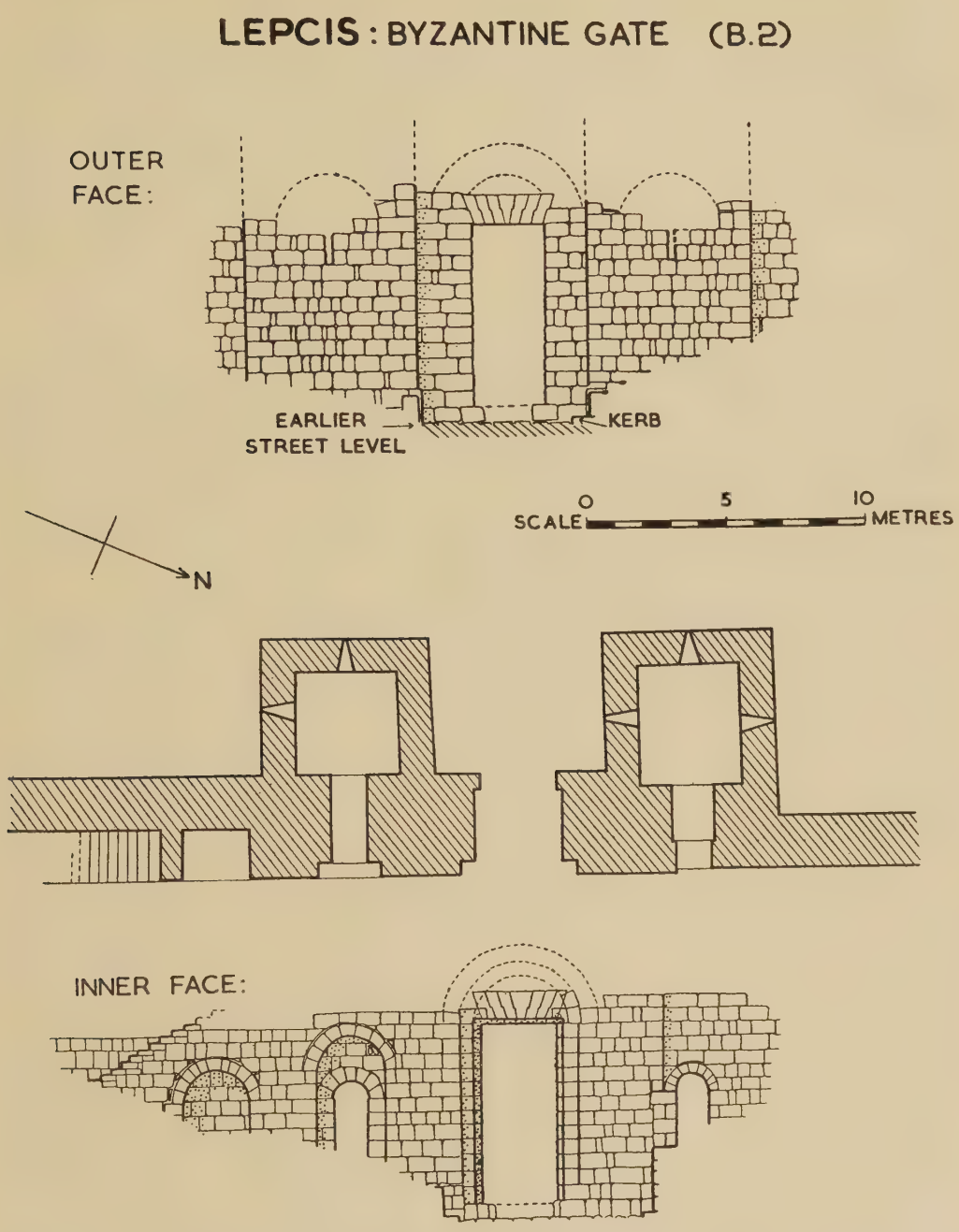

LEPCIS : BYZANTINE GATE (B.2)
OUTER FACE:
EARLIER STREET LEVEL
KERB
SCALE 0 5 10 METRES
N
INNER FACE:

FIG. 5.

and it will be noted that the face of the curtain wall beyond the south tower is slightly stepped forward from its previous alignment.

The stone used in the construction of the gateway is entirely re-used material, but was carefully selected by the builders, and is reasonably well coursed. It included (in the upper courses of the north tower) six blocks of the dedicatory inscription of a Flavian arch (*IRT* 342); and, elsewhere in its structure, four blocks of another monumental text (*IRT* 350), and a base in honour of M. Cornelius Capitolinus (*IRT* 593). One of the voussoirs of the flat arch over the gate seems to have come from the balustrade of the Curia in the Forum Vetus, and bears a dedication to a certain Rufinus (*IRT* 587). There are no traces of any inscriptions coeval with the gateway itself, but an equal-armed cross with forked terminals is cut on the right jamb of the entrance.

When excavated in 1925, the portal of this gateway was found to be closed with large blocks of stone, the upper part of this blocking being well faced and coursed, the lower part less so.[27] This blocking of the gateway is probably of the Byzantine period, and may not have occurred very long after the gate was initially built. Inside the blocked portal, the excavator found roughly built constructions backing on to the city wall, and lying across the former course of the 'Cardo'. These structures were perhaps of the early Islamic period; but they have now been cleared away. The motive behind the blocking of this main gateway can only be guessed, but it is tempting to attribute it to the encroachment of the sand-dunes, and to regard the change in character of the blocking masonry as marking the approximate level to which the sand had risen.

As regards the general architecture of the Byzantine gate, it is hardly necessary to make a detailed analysis of a structure so completely functional. It will suffice to say that, of the better-preserved Byzantine gateways in Africa, the 'porte Solomon' of Tébessa (*Theveste*) offers the closest parallel, even though modern restoration (for military purposes) has somewhat disguised its original character. In the Byzantine forts (as distinct from towns) of Africa, the main gateways usually lack the flanking towers (cf. Tobna, Timgad, and Mdaourouch). The architectural origins of the Lepcis gate should, however, be sought outside Africa and in Constantinople itself.[28] There, in the land wall erected by Theodosius II in A.D. 413, the principal gateways (other than the Porta Aurea) conformed originally to this simple pattern of a single arched portal flanked by square projecting towers: their lay-out was, however, complicated by the erection of the outer wall at a later date. That the designers of the Lepcis gate had the defences of Constantinople in mind is confirmed, beyond reasonable doubt, by their treatment of the inner face of the gateway, which closely follows the design adopted in the Theodosian land walls, for the Rhegium gate (Mevlevihane Kapi) and elsewhere.

At its junction with the Severan masonry at the north corner of the Forum block (point 14.58) the Byzantine wall broadens into a square tower (B 3), the inner arrangements of which are not visible. Here the continuous line of the Byzantine defences ended, and an improvisation of pre-existing structures took its place. For these adaptations, see p. 60.

[27] For a fuller description, see R. Bartoccini, 'Il recinto Giustinianeo di Leptis Magna', *Rivista della Tripolitania* ii, 1925, pp. 63–72.

[28] F. Krischen, B. Meyer-Plath, and A. M. Schneider, *Die Landmauer von Konstantinopel*, Berlin, 1938–43, i, pl. 14–15; ii, pp. 65–9. Cf. A. Van Millingen, *Byzantine Constantinople*, London, 1899, p. 78. For Africa, cf. Gsell, *Monuments Antiques de l'Algerie*, ii, 1901, pp. 344–84.

(2) *The secondary wall, on the north side of the Forum Vetus* (B 16–17) (pl. XIX *a* and *b*). The modified wall-circuit of the Byzantine period leaves the original wall-line half-way along its length (point 10.3), and runs directly towards the sea, passing over the partly demolished *podia* of the two major temples that faced the north-western side of the Forum Vetus. Its line is not, however, straight, as is that of the wall that it replaced, although its constructional technique is virtually identical.

The junction of the primary and secondary walls in this area is marked by a projecting tower (B 17), constructed probably at the time the wall-circuit was modified.

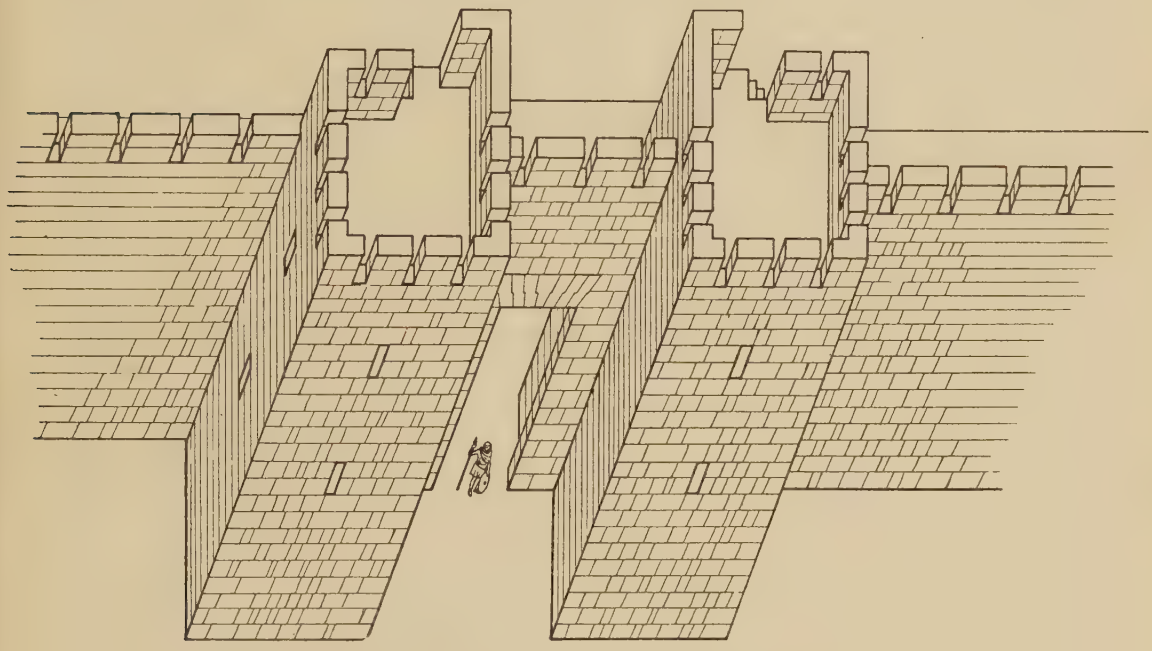


FIG. 6.—RECONSTRUCTED VIEW OF THE BYZANTINE GATE (B 2).

(*Note:* The height of the towers and of the parapet walk is based upon that of the barrel-vaults within the towers and over the entrance passage.)

It was entered by a passage cut diagonally through the wall, and it had a window in the south side. From this tower the curtain wall runs north-eastward and passes over the rear wall of the Temple of Liber Pater, which was stripped of usable material by the Byzantine builders.

The wall then makes a slight northerly change of alignment and cuts diagonally across the remains of the Temple of Rome and Augustus, part of the west wall of that building being retained to form the side of a projecting tower (B 16) of the usual square type (pl. XIX *a*). On the east, or seaward, side of this tower the Byzantine wall is pierced, at a level considerably higher than that of the Roman Forum (indicating the extent to which the ground level had been raised by the time of its construction), by a simple postern 3 metres high, and 1·5 metres wide, arched over (p. XIX *b*). It is note-

worthy that this postern was constructed beside a tower, and not in the tower itself, as was the normal Byzantine custom.

A prominent engaged column, of limestone drums, marking the original north-east angle of the Temple of Rome and Augustus (point 12.96) is incorporated in the wall; and beyond it the course of the Byzantine defences is covered by dunes. It may, however, be assumed to have joined up with the fragment (C 1) of the sea wall, which lies close at hand.

(3) *The Byzantine defences of the Forum Severianum and Nymphaeum areas* (B 4–6) (pl. XX). We have already observed that the primary Byzantine wall in the area of the Forum Vetus ran up to the north-east corner of the great block of Severan public buildings. This block was clearly incorporated in the defences, to form a citadel, throughout the Byzantine period. During the course of the Italian excavations it was found that the main entrances to the Severan Forum and Basilica had all been walled up, and there were also other isolated walls of a late period within its area. As most of these have been cleared away, and the door blockings removed, it is no longer possible to trace the successive phases of this late military use of the Forum. Only by study of the mortar of the blocking-walls could it have been ascertained which were of the age of Justinian, and which of an earlier or later period.

Justinian converted the Severan Basilica into a church, of which there are substantial remains.[29] We may conjecture that the Severan Forum, already ruinous and largely stripped of its marbles, became the headquarters of the *Dux limitis Tripolitanae*, and the quarters for his troops. Possible traces of this are still to be seen in the walling up of the outer doorways of the *tabernae* between the Forum and the Colonnaded Street, and the opening of fresh doorways on the side facing the Forum. At the time when this was done there was already a deposit of 60–80 cm. over the whole of the south-west portico of the Forum.

The only noteworthy feature of this late military occupation still surviving is a rectangular tower (B 4) built up against the outer face of the west wall of the Forum. This presumably belongs to a late phase of the Byzantine defences, as there are indications that the city wall was intended originally to follow a line further west and to enclose the smaller church (Church 3), built by Justinian in the angle between the head of the Colonnaded Street and the Forum.[30]

It is difficult, however, to follow with precision the course of the Byzantine defences in the sector that lies between the Severan Forum and the great Nymphaeum that flanks the Colonnaded Street. The area immediately west of the Forum has still to be fully excavated; and in the excavated area adjoining the Nymphaeum, a high-standing length of the Byzantine wall breaks off abruptly at the point where it may be presumed to have crossed the large piazza which fronts the Nymphaeum.

This wall-sector (B 5) runs along the east side of the Roman street that links the Severan Piazza with the earlier main thoroughfare of the city (the so-called 'Via Trionfale'). It begins at a minor street-intersection, where the distinctive Byzantine masonry abuts on to a massive wall of late Roman date (pl. XX *b*), perhaps a local defensive feature of the Vandal period (p. 71). This earlier wall itself rests on some 20 cm. of

[29] Ward Perkins–Goodchild, *op. cit.* (n. 26). [30] *Ibid.*

soil, which had accumulated over the classical street-level, and another 50 cm. had accumulated by the early sixth century. From this point the Byzantine city wall, still

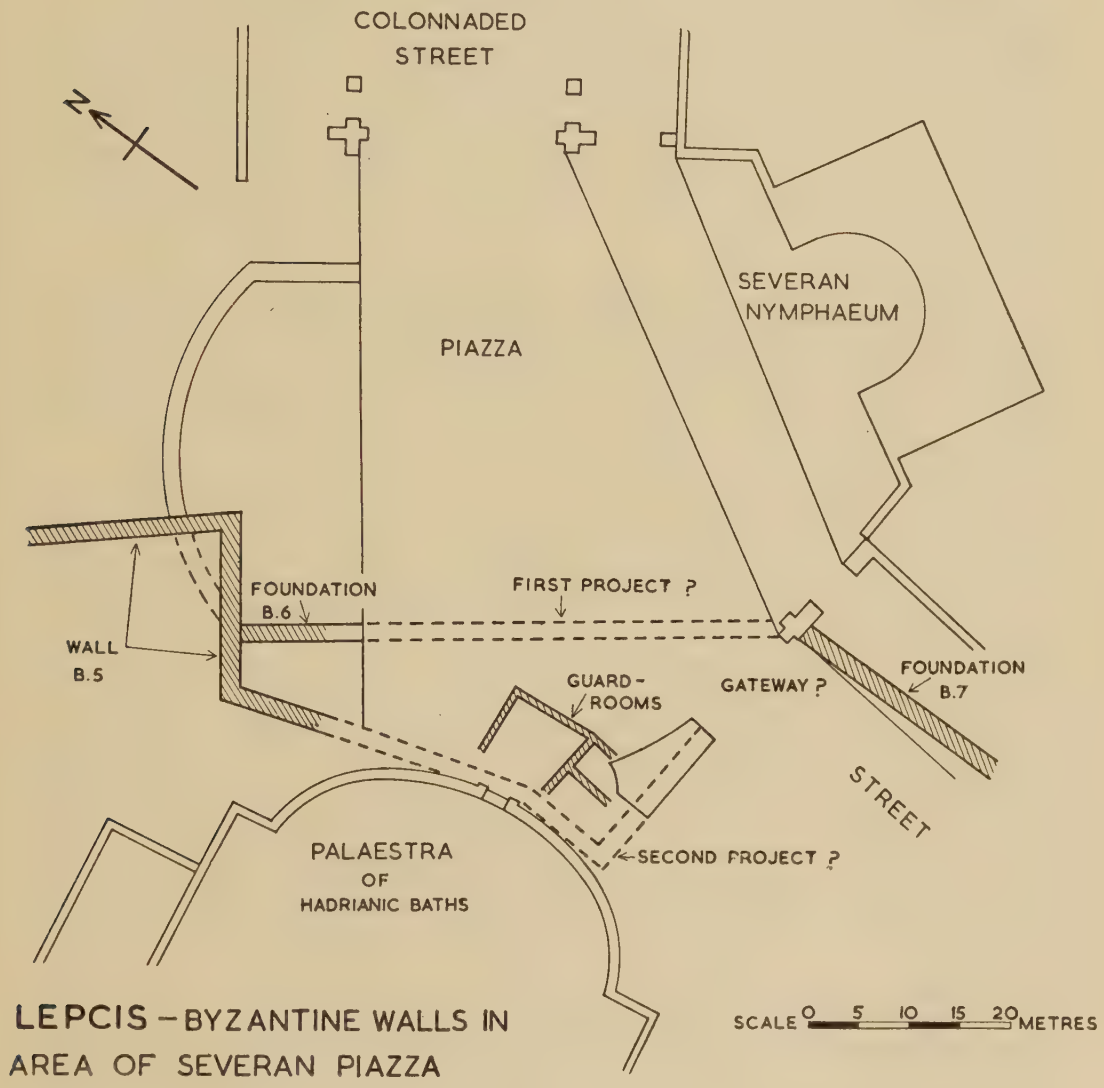


FIG. 7.

five courses high above its concrete foundation, runs for some 50 metres south-eastward, and then makes a double-bend before it breaks off abruptly on the edge of the Piazza (pl. XX *a*, fig. 7). Between the first and the second bend a foundation (B 6) of an uncompleted or dismantled Byzantine wall runs for 7 metres from the main rampart to the

edge of the Piazza, and consists of a single course of blocks resting on part of the stylobate of the Severan exedra.[31]

The curious behaviour of the Byzantine wall in the area of the Piazza (fig. 7) is best explained on the supposition that a gateway stood, or was intended to stand, on the south side of the Piazza, at the entrance from the Colonnaded Street that runs behind the Hadrianic Baths; and that its superstructure, if completed, was either demolished after the Islamic invasions or swept away by one of the torrents of the Wadi Lebda in the Middle Ages. All that survives of this gateway is a group of late foundations, incorporating Roman columns laid horizontally, just outside the eastern extremity of the Hadrianic Palaestra. These perhaps represent guard-rooms in the corner of the city wall; but as distinctive Byzantine mortar is absent, the possibility of an early Islamic date must be borne in mind.[32]

The short sector (B 6) of dismantled or uncompleted Byzantine wall can only be explained as representing an earlier project of the Byzantine builders, in which it was intended to construct the wall across the Piazza itself, in a straight line to meet the pre-existing pier on the southern flank of the Nymphaeum. This project was abandoned in favour of a more circuitous course for the Byzantine wall, making fuller use of pre-existing features. Such changes of plan are not unknown in Byzantine military architecture (see p. 73).

(4) *The outer Byzantine wall, south and east of the Colonnaded Street* (B 7–15). From the southern corner of the Nymphaeum, exactly opposite wall B 6, there runs a short sector (B 7) of dismantled city wall heading southwards towards the Wadi Lebda, on a line that diverges slightly from that of the earlier (late-second-century) stylobate. Its width is 2 metres, and although the mortar is not so distinctive as elsewhere in the Byzantine defences, there is no reason to dissociate this sector from that of the main outer line, which becomes very apparent on the right bank of the wadi (point 9.85).

This outer line[33] has long been visible, and consists of a 1·95-metre wall, with two courses of blocks, well coursed and set in shelly mortar, resting on 80 cm. of rubble foundation, firmly concreted with grey mortar. Romanelli, as we have seen, associated this wall with the late Roman wall still standing high in the dunes west of the excavated area; but there can no longer be any doubt that it belongs rather to a circuit laid out after the Byzantine reconquest of Africa, and abandoned and dismantled not long afterwards. It was replaced by an inner circuit (B 18–20) of less ambitious perimeter (pp. 66–7).

The first notable feature encountered on the right bank of the wadi is a tower (B 8), which was excavated by Mr. D. E. L. Haynes in 1945. The tower is of the size (5·65 × 4·50 m. externally) normally encountered in the Byzantine defences,[34] but is of special interest for the fact that it partly overlies an earlier aqueduct, with a *specus* 55 cm. wide,

[31] In plan (fig. 7) this fragmentary Byzantine foundation might seem, together with the high-standing wall (B 5), to form a tower or gateway; but it must be noted that B 6 was dismantled or abandoned when B 5 was built, since there are no traces of its bonding with the exposed and well-preserved face of the latter. Recent excavations (1953) have exposed the inner face of B 5, confirming that B 6 represents the original project, never completed.

[32] These late walls were first excavated by Professor Caputo before the war, and were re-examined during the British School's survey of the Severan Piazza in 1951. No dating evidence was found. A modern Decauville track covers the presumed course of the Byzantine wall in this area.

[33] First described by Romanelli, *Leptis Magna*, p. 150.

[34] An irregular breach in the masonry of the main wall behind the tower probably represents the site of an entrance doorway. A similar breach occurs in a corresponding position in Tower B 1.

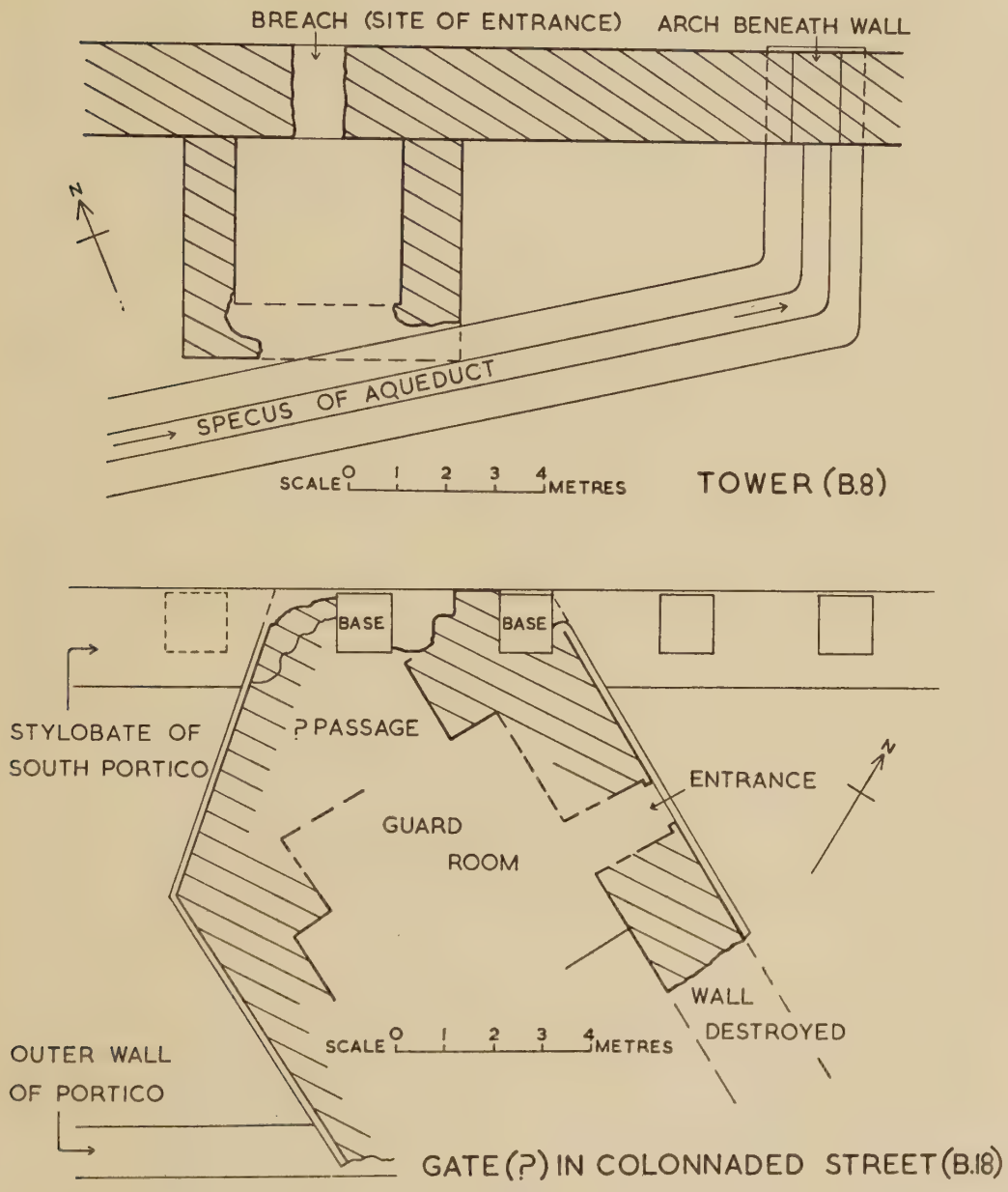

BREACH (SITE OF ENTRANCE)
ARCH BENEATH WALL
N
SPECUS OF AQUEDUCT
SCALE 0 1 2 3 4 METRES
TOWER (B.8)
BASE
BASE
STYLOBATE OF SOUTH PORTICO
? PASSAGE
ENTRANCE
N
GUARD ROOM
WALL DESTROYED
SCALE 0 1 2 3 4 METRES
OUTER WALL OF PORTICO
GATE (?) IN COLONNADED STREET (B.18)

FIG. 8.

which passes underneath the curtain wall 6 metres east of the tower (fig. 8 *a*). The foundation of the curtain wall is carefully arched over the aqueduct, and this can only mean that the latter was still in use when the wall was constructed. Neither the source nor the destination of the aqueduct are evident on the surface, but it has nothing to do with the Hadrianic Baths (which were, in any case, out of use in the Byzantine period); and since it lies on the right bank of the wadi, it is reasonable to suppose that it conveyed water to the massive Severan construction (not yet excavated, but probably a bath-house) that lies immediately behind the Temple of Jupiter Dolichenus. Here, then, we have perhaps a clue to the location of that bath-house which Justinian is said by Procopius (*aedif.* VI, 4) to have installed at Lepcis. It was probably a reconstruction of the Severan building, and the builders of the Byzantine defences would have taken pains not to interrupt its supply of water.

There are traces of a second tower (B 9) further to the east, and beyond it the wall turns north-westwards, and is barely visible on the surface, until it emerges from the soil at Tower B 10, which stands in a re-entrant angle of the wall-circuit on a slight knoll (point 12.9). Some earlier cisterns underlie the tower (fig. 9 *a*), but it is clear that they were out of use when the tower was built, and they have no possible connection with the aqueduct previously mentioned.

A little beyond this tower the wall makes a second change of alignment, and is visible for 180 metres (from point 9.4 to point 10.2) heading almost due east, after which it is again lost. Trial trenches cut in 1949 traced it for a further 60 metres, as far as point B 11, where all that has survived is the concrete foundation, 2·30 metres broad. From this point to the angle-tower B 12 all traces of the wall are lost, and trial trenches revealed only disturbed soil, there being no recognisable robber-trench. It is possible that the Byzantine constructors of the inner circuit (B 18–20) were responsible for this complete demolition of both wall and foundation. There is, at least, no doubt that the wall was partly completed, since fragments of it appeared in the cutting made at the point of junction with the inner circuit (p. 67).

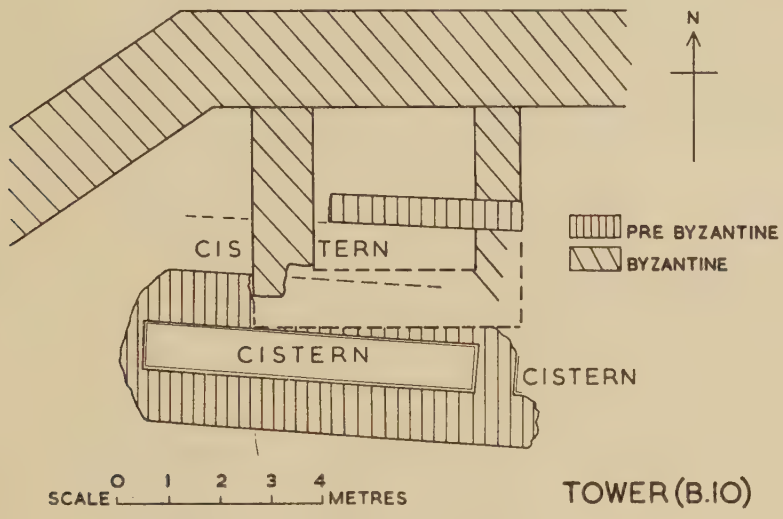
Tower B 12 (point 16.8) is larger than the normal towers of the Byzantine defences, as befits its position at the eastern angle of the circuit (fig. 9 *b*). Since it also formed part of the later Byzantine defensive system, it was not stripped of stone, and still stands high, although covered by dune sand. Only complete excavation can determine whether it was entered by a doorway pierced through the wall, or whether a postern adjoins it.[35]

From this point the wall runs northwards towards the eastern mole of the port. At point B 13 there are two rectangular projections on the inner face of the wall, increasing its breadth to 3·15 metres. These can hardly be buttresses, but they may mark the site of a staircase ascending to the parapet, as encountered elsewhere at Lepcis. Forty-five metres beyond this projection the line of the wall is interrupted by a deep depression (B 14),[35a] which may mark the site of a gateway from the eastern beach, and when the wall appears again on the further side of this depression, it is on a slightly different line. Here the Byzantine builders were able to make use of pre-existing features, and a section

[35] The plan (fig. 9 *b*) of this tower represents a level some two metres above the Byzantine ground surface.

[35a] Excavations by the Italian Archaeological Mission (1952) have recently brought to light a tower midway between points B 13 and B 14.

visible at point B 15 shows the actual wall-structure to be only 1·50 metres broad, resting on the massive blocks of the east mole of the Severan port.



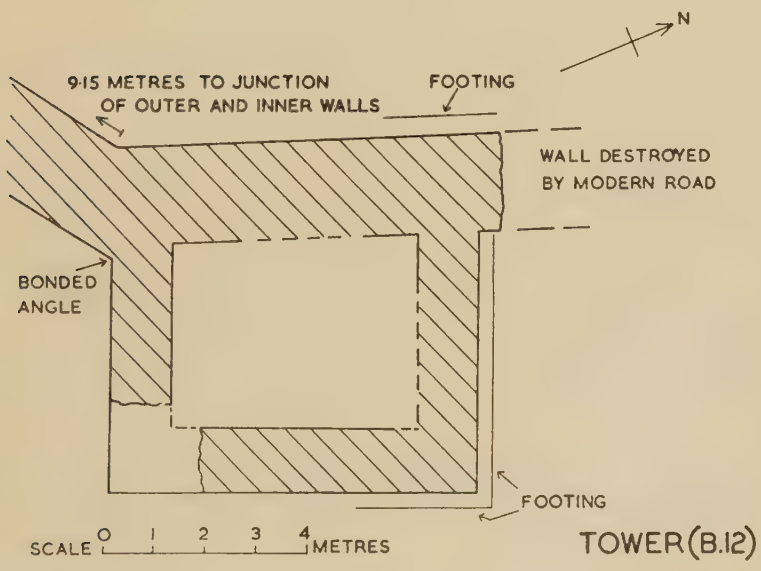


FIG. 9.

Here, close to a small but massively constructed temple of the Severan period, distinctive Byzantine wall-masonry ends, and the line of the defences is continued by a roughly constructed wall, 1·40 metres broad, on the inner side of which lie the scanty

remains of Church 5.[36] This rough wall, in turn, comes to an end when it reaches the lofty watch-tower that marks the end of the eastern mole.[37]

(5) *The inner Byzantine circuit, south and east of the Colonnaded Street* (B 18–20) (pl. XVI *c*). The wall-circuit just described was evidently found to be unsatisfactory at some stage of the Byzantine occupation of Lepcis (not necessarily long after its initial construction—perhaps even while it was still building), and most of its course was abandoned and dismantled. Only the easternmost sector, on the harbour mole, remained in use, and from a point near the angle-tower B 12 a new wall was constructed, following a gentle curve westwards towards the Severan Basilica. Its features, so far as these are visible, are here described from west to east.

The most recent descriptions of Lepcis make no mention of this inner circuit, although it may have been observed by Barth, and it was certainly used as a quarry by the Italian sappers who converted the Temple of Jupiter Dolichenus into a redoubt.[38] The scar of their quarry-trench is still visible to-day. The high sand dune that had accumulated against both sides of the wall tends to conceal its character, but large re-used blocks set in the unmistakable shell mortar of the Byzantine masons appear here and there.

The most prominent fragment of this wall appears on the left bank of the wadi, beside the Colonnaded Street (point 8.7), and was brought to light in the course of Caputo's excavations outside the Forum. It is a massive pentagonal tower (B 18), which lies across the south-east colonnade, two of whose bases are incorporated in its masonry (pl. XVI *c*, fig. 9 *b*). The form of this tower suggests that it formed the southern side of a gateway; and certainly the line of the Colonnaded Street must have remained, even in Byzantine times, the most obvious approach to the Port area. There are, however, no signs of a corresponding tower further towards the Severan Basilica, and if the interpretation as a gate is correct, we must assume that its northern tower was either dismantled after the Arab invasion or—perhaps more probably—destroyed by a torrent of the Wadi Lebda running down the line of the Colonnaded Street.[39]

From the eastern side of Tower B 18 there protrude a few metres of the curtain wall, pointing in a south-easterly direction across the modern bed of the wadi; and on the east side of the wadi, on the high ground behind the Dolichenus temple, trial trenches cut (near point 11.96) across the prolongation of this line in 1949 revealed traces (B 19) of the wall. From this point, where the modern road to the beach cuts the line of the wall, a high dune marks the line of the defences running eastward, with two slight changes of alignment. Only one intermediate tower (B 20) is visible before the angle-tower (B 12), but the deep accumulation of sand may well hide other towers and posterns.

Nine metres before arriving at Tower B 12 the inner curtain makes a bend of 20 degrees, and this angle clearly represents the point of junction of the inner and the outer Byzantine circuits. The character of this junction is obviously crucial for the relation

[36] Ward Perkins–Goodchild, *op. cit.* (n. 26).

[37] It is uncertain whether the roughly built defensive wall at the seaward extremity of the eastern mole is earlier or later than the Byzantine circuit, as the point of junction is not visible.

[38] Aurigemma (*Africa Italiana* iii, 1930, p. 84) refers to the quarrying of this 'grosso muro in parallelepipedi di pietra, elevato con materiale raccogliticcio . . . a difesa del porto interno'; and a photograph in the archives of the Department of Antiquities at Tripoli shows the sappers at work.

[39] The north-west portico of the Colonnaded Street is not completely excavated at this point; it is possible that traces of the missing gate-tower may come to light later.

between the two circuits, and a cutting was therefore made at this point in 1950.[40] This cutting revealed, beyond any doubt, that the outer wall was the earlier of the two, and that it was demolished when the inner wall was built. Although the cutting could not be taken down to the lowest courses of the Byzantine wall, one block was found protruding on the outer alignment, whilst the block above it had been cut back to conform to the new, inner alignment (fig. 10).

From Tower B 12 to the northern end of the eastern harbour mole, the Byzantine city wall belongs to the original circuit, and has already been described (pp. 64–6).

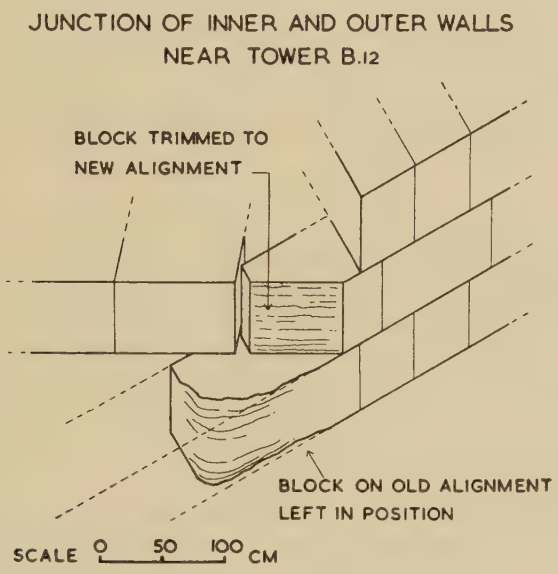


Fig. 10.

There is no evidence of any modifications taking place at the time of the construction of the inner wall.

From this description of the Byzantine defences of Lepcis it is evident that they are considerably more complex than has previously been suspected. Disregarding for the moment the historical implications, and the special problem of the seaward defences, we may tabulate the evidence as follows:

(a) *Primary Byzantine walls uncompleted or later dismantled.*

(1) The sector running north-west from Tower B 17 to the sea, and including Tower B 1.

(2) The fragment B 6 in the Severan Piazza.

(3) The long outer sector on the south-east side of the Wadi Lebda, from B 7 up to, but excluding, Tower B 12.

[40] The cutting was made by members of the 1950 Map of Roman Libya expedition, and Mr. John Spaul made the drawing on which fig. 10 is based.

(b) *Primary Byzantine walls remaining in use up to the final abandonment of the city.*

(1) The sector from Tower B 17 to Tower B 3, of which the gate B 2 was blocked at some intermediate period.

(2) The sector from the angle tower B 12 to the extremity of the east mole of the Port (B 15).

(c) *Secondary Byzantine walls.*

(1) The sector running north-east from Tower B 17 to the sea, and including Tower B 16.

(2) The sector running eastwards from the presumed gateway B 18 up to, but excluding, Tower B 12.

(d) *Primary Byzantine wall presumably abandoned in the second period, but not dismantled.*

The sector B 5, in the vicinity of the Severan Piazza.[41]

(iv) *The Sea Wall*

The problem of the sea wall of Lepcis is altogether more complex than that of the landward circuits. Here alone the Byzantine defences must partly have coincided with any late Roman predecessor that there may have been; and not only has the heavy pounding of the sea throughout the centuries interrupted the line of the sea wall for most of its course, but even where it has spared the masonry it has often washed away that mortar which, at Lepcis, is so often the key to the date of defensive works. Another complicating factor is the existence of harbour works and other structures that were particularly suitable for incorporation in a defensive circuit, and a distinctive wall-foundation may not always have been constructed.

In the central part of the sea frontage of the city traces of the defensive wall are visible at two points. The first (C 1) lies close to the Forum Vetus, and presents a short sector of solid masonry, of re-used materials, several courses high. In recent years this wall has been undercut by the sea, and although steps have been taken to consolidate it, its future survival is not assured. Further to the north-west, close to the still unexcavated ruins of the Temple of Neptune, there are traces of another sector (C 2) of the sea wall, on much the same alignment as C 1; but here little remains except the foundation trench cut through pre-existing structures. Both these fragments of sea wall fall within the area enclosed by the primary Byzantine land defences; but only C 1, with its characteristic shelly mortar, can certainly be ascribed to the Byzantine period.

Between C 1 and the western mole of the Port, there are no clear traces of a sea wall, but there were massive Severan harbour works in this area, and the beach is littered with large blocks of stone. It may therefore probably be assumed that these harbour works were adapted as part of the seaward defences of the city at whatever period the latter were first erected. To the west of C 2, and half-way between this point and the western termination of the land wall at Tower A 1, there are remains of a roughly constructed wall visible on the beach; but it is largely covered by dune sand and its character and extent are obscured.

[41] It is curious that Wall B 5 escaped the dismantlement which the other sectors of the outer circuit suffered. Possibly dune-sand had already begun to cover it before the new Byzantine defensive scheme was decided on.

It is at Tower A 1 that the most tangible evidence of a pre-Byzantine sea wall is to be found, although only a short sector of this wall has survived (pl. XVI *a*). Here, as we have already observed, the curtain-wall on the landward side is bonded into the tower, whilst on the seaward side it is built up against the tower face, and is patently later. There can be no question of a Byzantine date for this latter wall, as it lies well outside the effective area of the Byzantine landward defences, and we may therefore conclude that the first sea wall was erected at a date later than that of the earlier land wall, but before the Byzantine reconquest. Since Vandal policy favoured the demolition of urban defences, and not their construction, we may also presume that this sea wall was erected before Tripolitania came under Vandal control, in 455;[42] and the addition of a sea wall to pre-existing landward defences may logically be explained as the result of the growth of Mediterranean piracy in the first half of the fifth century and of the Vandal occupation of Proconsular Africa. For confirmation of this preliminary conclusion we must, however, await the results of excavation along the seaward frontage of Lepcis.

4. GENERAL CONCLUSIONS

The city of Lepcis presents, therefore, traces of three (four, if we include the Byzantine modifications) successive landward defensive circuits, of which the outermost, an earthen rampart, is perhaps the most ancient. This great rampart has all the appearance of an emergency measure, and we have suggested above that it may have been hastily thrown up in A.D. 69 to meet the threatened Garamantian invasion.

That this rampart was not a city wall in the normal sense is certain both from its great extent and from the fact that many of the city's cemeteries lay within it. Nor can it have been the first defensive work that the city possessed. We can hardly doubt that the original Punic settlement had walls, as had Sabratha at the same early period.[43] All surface traces of them have disappeared beneath the later Roman city, but they lay presumably somewhere in the neighbourhood of the Forum Vetus, which was the first inhabited centre of which any clear traces have yet been identified. A limit is set by the early necropolis found by Caputo beneath the Theatre.[44]

Whether Lepcis was walled during the Augustan period, or at any later date before A.D. 69, is more problematic. The city was expanding very rapidly; and if there were any such walls they have disappeared as completely as their Punic predecessors. It has, indeed, been suggested that the curious, arch-like structure dedicated to Augusta Salutaris is the South Gate of a Tiberian defensive circuit; it lies immediately to the north-east of the Arch of Severus, and is dated to A.D. 29–30.[45] But there are no traces of a curtain wall adjoining it even in its foundations, which excavation has exposed, and the arch is, and always has been, a free-standing structure. It can hardly be a city-gate in any defensive sense. It may very well, on the other hand, mark the formal entrance to the city from the coastal highway that was later to become its principal transverse

[42] It seems generally agreed (cf. J. B. Bury, *History of the Later Roman Empire* i, 1923, p. 255) that Tripolitania was retained by the Empire under the treaty of A.D. 442, and only passed into the hands of the Vandals at the death of Valentinian III in 455. Coherent municipal life came to an end, as inscriptions show, early in the fifth century.

[43] The remains of the walls of Punic Sabratha were identified by Miss K. M. Kenyon in 1948–9 on a line corresponding approximately to that of the north precinct wall of the East Forum Temple.

[44] *Fasti Archaeologici* iii, 1948 (1950), 3483.

[45] *IRT* 308, mentioning the third year of the proconsulship of C. Vibius Marsus. The monument itself remains unpublished.

thoroughfare, and was to be spanned at this point by the monumental arch of Septimius Severus. Together with the milestone of Aelius Lamia (*IRT* 930), the Augusta Salutaris arch marks the formal limit of the city under Tiberius; but it cannot be used as evidence of a defensive circuit at this point. On the evidence at present available, it is by no means impossible that the rapid expansion of the city under Augustus and his immediate successors had outgrown any walls that it may have had earlier, without immediately replacing them. This fact would go a long way to explaining the date and character of the great outer bank.

From A.D. 69 until the middle of the third century there is no recorded occasion on which Lepcis might have had need of a city wall. The campaigns of Severus in the interior of Tripolitania[46] probably took place well beyond the line of the Gebel, and there is no reason to suppose that the city had previously been closely threatened by barbarians. If Severus or Caracalla had themselves walled the city, they would surely have done so on a scale and in a style commensurate with their great works in the Port area, or along the Colonnaded Street and its adjacent Forum. The fall of the dynasty of Severus (A.D. 217), and the consequent decline of the city's prestige, marks therefore a *terminus post quem* for the construction of the first surviving stone wall circuit. It cannot, on the other hand, be later than the Austurian invasion of 365, on which occasion the city could be described as *muro et populo validam* (p. 43).

To what phase in this century and a half can the earlier wall-circuit be attributed? The fourth-century inscriptions referring to *moenia* (p. 43) provide no reliable clue; and the current attribution of the wall to the fourth century is only an approximation. In a recent paper,[47] Caputo has suggested that these defences, built entirely of re-used materials taken from tombs (fragments of public buildings do not appear in these walls), should rather be attributed to the middle of the third century, when the *limes* of the interior was strengthened by such blockhouses as the *centenarium* of Gasr Duib, erected by the emperor Philip (244–6) as a defence against *incursibus barbarorum*.[48]

There can be little doubt that barbarian pressure was being felt on the *limes Tripolitanus* not long before 250, but it is difficult to judge whether this would have resulted immediately in the hasty construction of defences at Lepcis. Indeed, if a third-century date is to be accepted for the stone wall, one would be more inclined to attribute it to Gallienus, in honour of whose consort the city adopted the additional title of Salonina, and the citizens that of Saloninani.[49] Manni[50] has recently commented on the attention which Gallienus devoted to the fortifications of cities, and has suggested that the dynastic titles given to certain cities during his reign might be indicative of the construction of new defences. Of an actual barbarian invasion of Tripolitania during this period, there is no historical record; but our sources for third-century history are so scanty that we can argue nothing from their silence. Certainly, an invasion of this sort would not have been surprising in the stormy reign of Gallienus, when almost every frontier of the Roman empire was threatened.

[46] S.H.A., *vit. Sev.* 18, 3: *Tripolim unde oriundus erat contusis bellicosissimis gentibus securissimam reddidit.* This statement does not necessarily imply that the 'very war-like tribes' in question (the Garamantes again?) had penetrated to the coast. It was the security of the Gebel that was restored by these campaigns, which resulted in the establishment of garrisons at Bu Ngem and Ghadames.

[47] G. Caputo, *Rev. Ét. Anc.* liii (1951), p. 244.

[48] *IRT* 880. Cf. Goodchild and Ward Perkins, *JRS* xxxix, 1949, pp. 91–2.

[49] Goodchild, *Reports and Monographs* ii, 1949, p. 31, instancing *IRT* 284, 456 and 457. *IRT* 459 also refers.

[50] Eugenio Manni, *L'Impero di Gallieno*, Rome, 1949, p. 58 and n. 3.

Confirmatory evidence of a Gallienic date may perhaps be sought in the text of a block of stone,[51] inscribed in honour of the younger Valerian (son of Gallienus) by the Lepcitani, that was found in 1914 by Aurigemma lying some thirty metres from the Mausoleum of Gasr Shaddad, on the east side of the Wadi Lebda. This mausoleum, as has been already noted (p. 53) adjoins, and may have formed part of, the defensive circuit. A public dedication to a member of the Imperial family, although out of place in the city necropolis, would be readily explicable if it had been incorporated in the structure of the city wall, or set up beside it. It is, of course, possible that it was brought from elsewhere to construct or repair the wall at some date long after the reign of Gallienus; but the re-used material in the wall fabric is taken almost entirely from tombs, not from public monuments.

The West Gate (p. 51) cannot be closely dated, without further excavation. The closest contemporary parallels seem to be the Maxentian additions to the Aurelian Wall of Rome; but the circumstances of its construction, incorporating an earlier arch, were unusual, and it would be unwise to infer too much from the analogy. All that we can say is that the circuit chosen for the wall includes the whole built-up area of Lepcis, except for the coastal suburbs on its eastern and western flanks. A gravestone of the Severan period (*IRT* 727: '50 m. N of the Main Road' should read '50 m. S etc.') has been found *in situ* only a short distance outside the presumed wall line, on the left bank of the Wadi Lebda. The landward wall-circuit therefore follows the effective limits of the Severan city; except on the coast, little or nothing was abandoned. Nor were public buildings stripped—as they were in third-century Gaul—to provide materials for the defences. For the present we can only say that the earlier land walls of Lepcis are unlikely to be earlier than *c.* A.D. 250, and cannot be later than 365; and that within these limits there is perhaps a balance of probability in favour of an earlier rather than a later date. The sea walls are secondary but cannot be later than the Vandal occupation of 455.

For the later defences of Lepcis we are on much surer ground. Procopius has recorded (*aedif.* VI, 5) that the Vandals dismantled the walls of the African cities, sparing only those of Carthage and of 'a few other places'. The poor state of preservation of the inland sectors of the late Roman wall would seem to indicate that Lepcis was not one of these exceptions to the general Vandal policy; and in the years between A.D. 455 and 534 the city was probably undefended except by such makeshift fortresses as the inhabitants were able to improvise out of earlier structures, such as the Theatre.[52]

At all events, the Byzantine conquerors of Tripolitania decided that it was impracticable or undesirable to reconstruct the original wall circuit. In the words of Procopius (*aedif.* VI, 4), 'Our Emperor (Justinian) built up the circuit-wall of this city from the foundations, not however on as large a scale as it was formerly, but much smaller, in order that the city might not be weak because of its very size, and liable to capture by the enemy, and also be exposed to the sand. At present, indeed, he has left the buried portion of the city just as it was, covered by the sand and heaped up in mounds, but the rest of the city he has surrounded with a very strongly built wall.'

The sand that covered much of the Roman city was not all wind-blown dune-sand. Excavation at various low-lying points has shown[53] that vast quantities of alluvial soil had been deposited by the Wadi Lebda after it had forced its way past the massive dam

[51] *IRT* 460 (*a*). [52] Cf. n. 25. [53] Goodchild, in *Fasti Archaeologici* i, 1946 (1948), 2072.

and regained its old course. Rubbish-dumps and the remains of disintegrated mud-brick construction, from the upper storeys of private houses,[54] had also filled the abandoned parts of the city. At one period during the Vandal occupation, Lepcis is said to have been completely bereft of inhabitants, and it was clear that there was no hope of restoring urban life on the same scale as before the Vandal occupation.

At their maximum extent the Byzantine defences enclosed some 44 hectares (110 acres), about a third of the earlier walled area. In their final form they girdled only the Forum Vetus area, the Severan Forum block, and the Port (about 28 hectares = 64 acres). The original project of the Byzantine wall-builders seems to have been to enclose an area of relatively high ground on the right bank of the Wadi Lebda; and we may suspect that this area, free from any danger of flooding, was destined as a residential quarter, leaving the left-bank quarter, and the massive fabric of the Severan Forum to the military authorities, the *dux* and his staff.[55]

How far this project was realised, it is difficult to judge. The similarity of constructional technique strongly suggests that the modified wall-sectors were little later in date than the primary ones, then partly or wholly abandoned and dismantled. Moreover, there are very few surface indications of late buildings within the right-bank area enclosed by the outer wall; and the level of the surviving wall-foundation shows clearly that there has here been no great accumulation of soil since Byzantine times. Superficial indications suggest, therefore, that the first project was rapidly abandoned, and a further policy of retrenchment decided on. The proposed residential area never took shape, and the new wall-circuit left the Severan Forum as a citadel projecting from the main line of defence.

To date precisely the two or more successive changes of Byzantine defensive policy at Lepcis is impossible. Those African sites that have provided epigraphic evidence of Byzantine fortification show that the patrician Solomon was a particularly active wall-builder. He had two periods of office in Africa, 534–6 and 539–44, and the wall of Gafsa (*Capsa*) belongs to the second phase.[56] The Byzantine walls of Lepcis may belong to either period, but it is highly probable that they were already in existence in 544, when the incompetent Sergius, *dux* of Tripolitania, allowed his bodyguard to slaughter eighty Libyan notables who had come to treat for peace.[57] Without the protection of stout ramparts, he and his outnumbered forces could hardly have escaped the wrath of the Levathae, encamped in the suburbs of the city.

It is possible, too, that the drastic modification of the Lepcis defences resulted from lessons learned in 544, and that the failure to conciliate the local native population put an end to Justinian's dream of completely reviving urban life in the reconquered cities. Defensive necessities were henceforward to override all other considerations. The port and the governmental buildings installed in the Severan Forum had to be effectively defended, and space for civilian expansion had to be sacrificed.

On the other hand, the explanation may be less dramatic and due to operational or administrative circumstances of which we have no knowledge, but which took effect even before the events of 544. The Byzantine military authorities did not always approach

[54] Mud-brick was more extensively used at Lepcis than is generally realised. Examples of its use at ground-level can still be seen in the Chalcidicum and near the Severan Arch.

[55] *Cod. Iust.* i, 27, 2, 1: *Sancitimus itaque, ut dux limitis Tripolitanae provinciae in Leptimagnensi civitate sedes interim habeat.*

[56] CIL viii, 101–2. [57] Procopius, *bell. vand.* ii 21, 3.

the problems of fortification with the same singleness of purpose that had characterised their Roman predecessors. A good example of their fumbling methods is provided by the fortress built at Madaura by Solomon in 539–44.[58] Originally designed as an orthodox rectangular citadel with projecting angle-towers, this fortress was completed in rather different form, part of its original walls being abandoned after only a single course of blocks had been laid. In the case of Lepcis the evidence is inadequate to show how much of the outer Byzantine circuit had been built before it was abandoned; but the change of plan may equally reflect the tortuous workings of the Byzantine mind.

For the closing phase of the history of the defences of Lepcis, there is remarkably little information, and we do not even know if the Byzantine walls offered any resistance to the first Arab invaders. The absence of any reference to the capture of *Lebda* (as it was henceforward to be called), in contrast to the detailed narrative of the storming of Tripoli (the ancient *Oea*), rather suggests that the latter city had already superseded Lepcis as the chief city of the province. Yet the continuation of some measure of life in Lebda is shown by its mention in narratives of later campaigns down to A.D. 1000.[59] In El-Bekri's time (*c.* 1028–94) the place was little more than a castle sheltering a thousand Arab horsemen.[60] It was in this period, too, in 1080–1 or 1099–1100, that an otherwise unknown 'Emir Sulaym' built, among the ruins of a Roman building on the hill-top of Ras el-Hammam, a small but massive fort, which is the last dated monument of the city.[61]

From the twelfth century down to the Italian occupation of 1911, the sand-dunes rolled unchecked over the ruins left by Roman and Byzantine builders. The winter torrents of the Wadi Lebda scoured the course of the once magnificent Colonnaded Street, whilst unidentified vandals exploded mines to overturn the walls of the Severan Forum.[62] At various times between the seventeenth and the nineteenth centuries the city was quarried for its precious marbles, sent as far afield as London and Versailles. The last recorded episode in the history of the defences of Lepcis occurred in 1912, when Italian troops fought a battle to gain the heights of the Monticelli, and dug themselves into the spoil-heaps of the Roman canal. They later established a continuous line of trenches and barbed-wire running from the south-eastern end of the Monticelli along the left bank of the Wadi Lebda as far as the crossing of the modern road, and then cutting across the open right-bank area to the hill-tops of Sidi Yusef and Sidi Barcu, on which were erected forts named after Septimius Severus and Victor Emmanuel III respectively.[63] Under the protection of these forts Italian archaeologists began, in 1920, the disinterment of the ancient city.

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[58] S. Gsell and C. A. Joly, *Khamissa, Mdaourouch, Announa* ii, 1922, pp. 126–32.

[59] For the Arab sources relating to Lebda, see Romanelli, *Leptis Magna*, pp. 33–6. As Romanelli rightly points out (p. 34, note 2) Lebda controlled the coastal route to Tripoli.

[60] El-Bekri, *Description de l'Afrique septentrionale* (ed. de Slane, Alger, 1913), p. 26.

[61] Romanelli (*op. cit.* p. 169) describes the fort on Ras el-Hammam as 'sicuramente di costruzione bizantina', and makes no reference to the Arabic inscription on the lintel of its inner doorway. Levi Della Vida (*Annali Ist. Univ. Orientale di Napoli*, n.s. iii, 1949, pp. 77–81) publishes the inscription without questioning Romanelli's dating of the fort itself. Yet there can be little doubt that the inscription refers to the initial construction of the fort which, in fact, has every appearance of being early Islamic rather than Byzantine.

[62] *Africa Italiana* i, 1927, pp. 56–9. As Bartoccini rightly remarks, the undermining of the Forum walls was not motivated by any desire to make use of their materials, and took place long before the large-scale exportation of marbles began. Possibly the aim was to destroy a notorious refuge of outlaws and bandits.

[63] The Italian defensive line on the south bank of the Wadi Lebda followed a course very different from that of the great earthen bank (see n. 12). Its line can still be traced to-day.

GASR EL-GEZIRA, A SHRINE IN THE GEBEL NEFUSA OF TRIPOLITANIA

(Plates XXI, XXII)

The Site

GASR EL-GEZIRA[1] stands on high ground about one kilometre south of the edge of the escarpment overlooking Wadi el-Matmùra where it debouches on to the Gefara, the coastal plain of Tripolitania, and about four kilometres due north of kilometre-stone 166 on the Jefren–Giado road. The escarpment in the neighbourhood is over 400 metres high, and the building stands at a height of 745 metres above sea-level, on the watershed between the wadis running down to the Gefara and those feeding the affluents of the Upper Sofeggin system to the south.

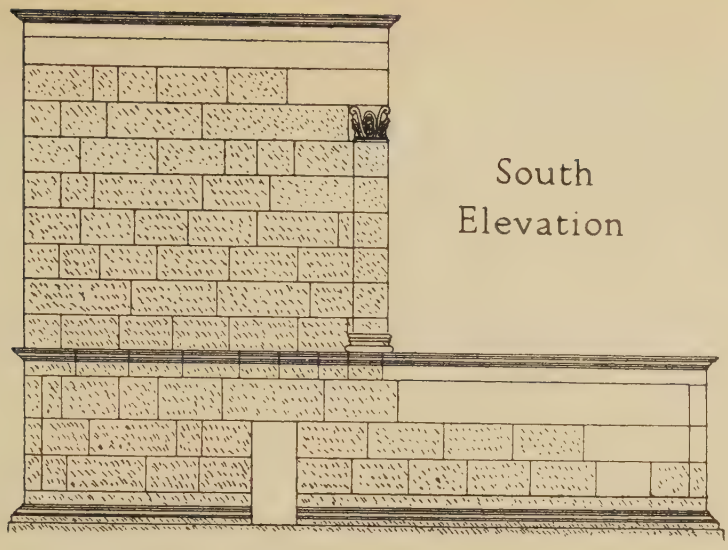
The building is surrounded by scattered troglodyte dwellings and sparse olive groves, interspersed with fig gardens and more open land used for cereal cultivation. The remains of a Roman village lie some three hundred metres to the south-east, and the whole complex marks the north-eastern extremity of an area of Roman olive cultivation, roughly coinciding with the district known as ez-Zintan, and probably to be assigned to the period between the first and the fourth centuries A.D.

The Building (pls. XXI and XXII, *a*; figs. 1 and 2)

Gasr el-Gezira, which, for reasons given below (p. 79), is here provisionally regarded as a temple rather than as a mausoleum, consists of a central and two flanking chambers facing east, set on the long side of a rectangular podium measuring 11·95 by 9·82 metres, which projects 4·45 metres in front of them. The masonry is of large blocks of local limestone, regularly coursed without mortar, and dressed on the outer faces of the whole building and of the central chamber. The thickness of the walls is 55 centimetres, to which must probably be added a plaster coating on the undressed inner face. The foundation course projects 25 centimetres from the outer face of the podium, and 15 centimetres from the dressed face of the central chamber. Above this level a simple moulding ran all the way around the outer wall, and the top of the podium is similarly marked by a projecting cornice.

Access to the interior of the podium was gained by a main doorway 1·05 metres wide, near the north end of the front wall, and by a subsidiary doorway, 65 centimetres wide and 1·50 metres high, on the south side near the south-west corner. The main doorway is provided with a recessed sill and sockets for the jambs; the door was fastened by a wooden bar dropping into an L-shaped socket on the left side. The side door is now blocked by fallen stone, and no details are visible. The interior of the podium had a cement floor, now exposed in one place, 25 centimetres below the top of the foundation

[1] Map reference U 717756, Sheet 1752 (Gasr el-Hag) of the 1/100,000 survey of Libya by the Istituto Geografico Militare, British war-time issue with grid. The site was visited by the authors in October 1952 in the course of a survey of the antiquities of the Gebel Nefusa carried out on behalf of the Department of Antiquities, Government of Libya.



Scale 0 1 2 3 4 5 metres

Ground Plan

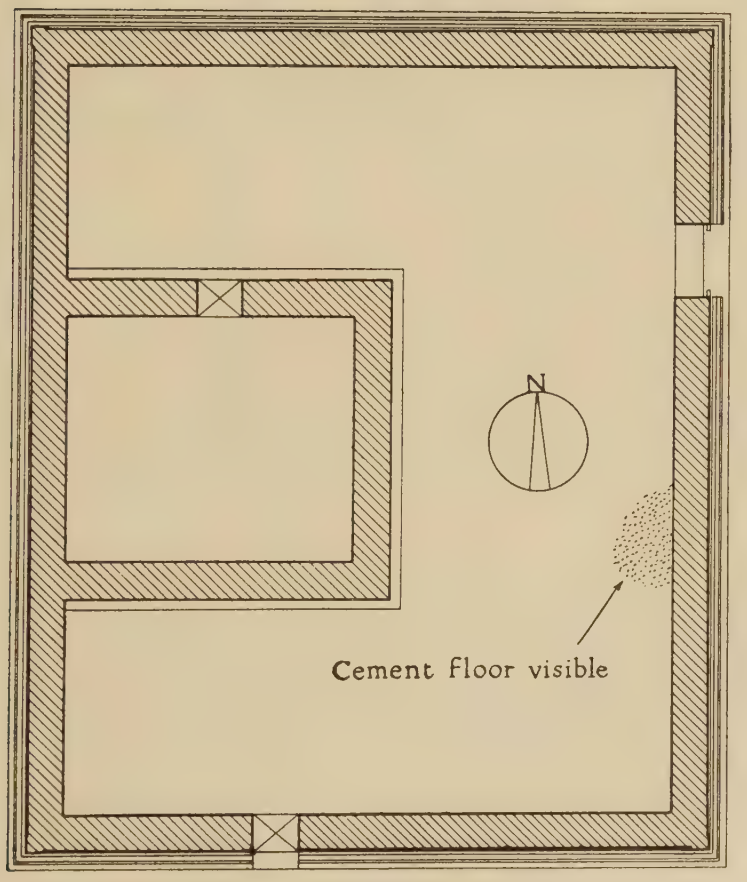
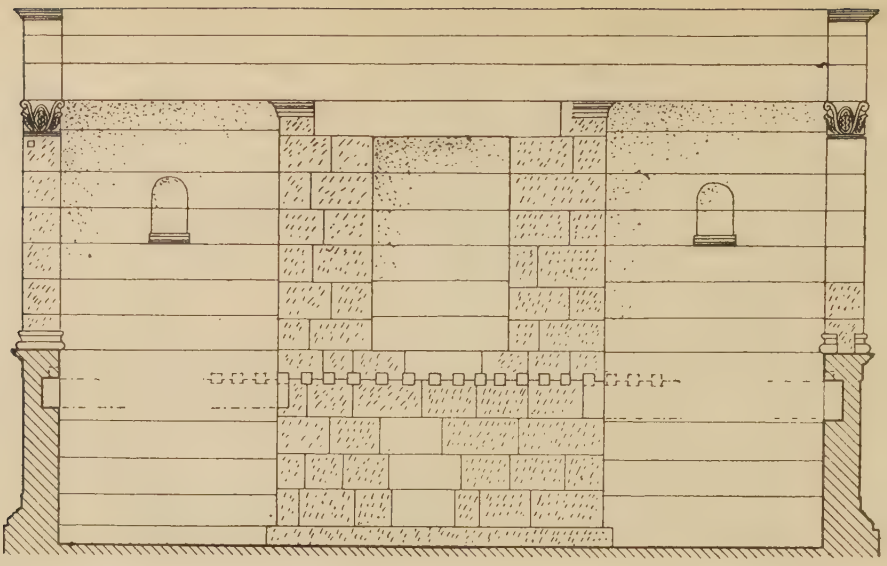
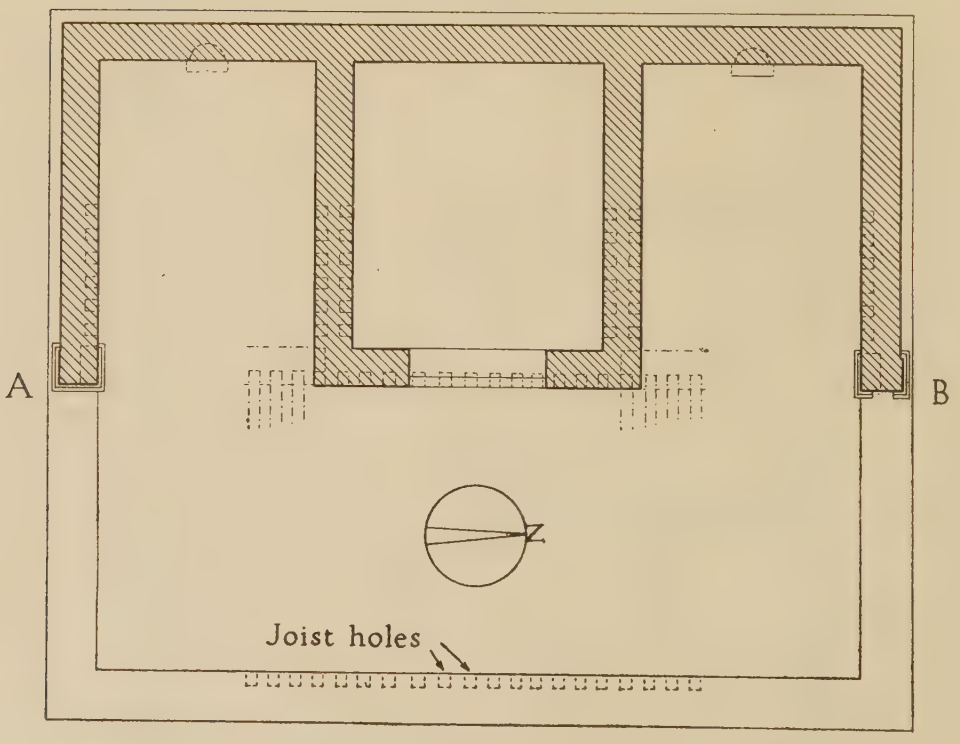


FIG. 1.



Section A-B

Scale 0 1 2 3 4 5 metres



Plan at Podium level

FIG. 2.

course. No subdivisions are apparent, with the exception of a room enclosed by the lower courses of the walls of the central chamber, and entered by a doorway on its north side of the same size as the south doorway of the podium. The whole was roofed with wooden beams, whose sockets are visible in the surviving parts of the walls; these in turn supported the floors of the upper chambers and the platform in front of them (pls. XXI, *a* and XXII, *a*).

There is no evidence of the means of access to the upper level of the temple. No sign of external steps was found, and it is difficult to suppose that even a wooden flight of any size existed, since no scar is visible on the masonry. Such steps, it must be admitted, fall very quickly into ruin, and many substantial remains of ancient temples exist in which they have almost completely vanished.[2] It can only be suggested that in this case there was a small stairway, giving limited access, either on the outside or within the podium, but there is no break in the line of existing beamholes or other irregularity to indicate its position. The level of the platform was presumably that of the bottom of the projecting moulded bases that adorn the terminal pilasters on the outer walls of the side chambers; the thickness of the floor would then suggest beaten earth rather than wood as the material. The floors of the chambers themselves appear, judging from the slight rise in the level of the beamholes in their walls, to have been about 7 or 8 centimetres above the level of the platform.

The central chamber, which is 3·57 metres wide by 4·10 metres deep, has a doorway 1·95 metres wide in its front wall, with traces of the usual recessed sill and jamb-sockets at platform level. The lintel, now missing, probably ran across 3·05 metres above the sill: two surviving blocks at this height have an external cornice, which clearly marks the top of the chamber. The width of the doorway, together with the absence of a bar-socket on either side, suggests that there were double doors. Inside the chamber the only surviving feature is a pair of dressed stone ledges, 1·05 metres long and projecting 20 centimetres from the side walls, where they join the back wall of the building (pl. XXII, *a*). Their upper surfaces are 1·42 metres above the presumed floor-level, and they may have served as shelves for lamps or offerings, or to support a wooden table, for the same purpose, running along the back wall. The central chamber has no direct communication with the side chambers, which open on to the platform and do not appear to have had doors; their only internal feature is a round-headed niche half-way along the back wall of each (pl. XXI, *a*). The floor of the niche projects forward 18 centimetres in each case to form a ledge 1·65 centimetres above the floor, ornamented on the underside with a simple moulding.

The back wall of the building, which is almost complete, is continued above the top course of the central chamber for a further course of 60 centimetres and two courses of 45 centimetres, the upper of which carries a cornice on the outer face. It seems probable that the side walls were originally carried up to the same height and that the cornice was continued around them. A large part of the north wall has fallen, but the south wall lacks only the two upper courses and two or three blocks of the two immediately below. Among the debris of the north wall is part of a battered Corinthian capital, which

[2] Cf. R. Cagnat and P. Gauckler, *Les Monuments historiques de la Tunisie*, i, *Les Temples païens*, Paris, 1898, plates IV and XVIII, and *passim*; D. Krencker and W. Zschietzschmann, *Römische Tempel in Syrien*, Berlin, 1938, plates LXXXIX–XCIII (Hibbariye).

presumably adorned the top of the terminal pilaster. There must have been a similar capital on the pilaster on the south wall; and since its proportions make it clear that it must have been incorporated in a course 60 centimetres high, there are only two possible positions for it to occupy, either in the course that corresponds to the moulding course of the central chamber or in the course immediately above. The first position is preferable on grounds of symmetry, and, as will be seen from the photograph, this course has been deliberately adjusted at the back corners, from a height of 52 centimetres along the back wall to 60 centimetres along the sides of the building, suggesting that some special feature of this sort had to be incorporated (pl. XXI, *b*).

No firm conjecture can be made about the method of roofing, since no beamholes or other means of attachment are visible. But if, as is likely, all three chambers were roofed, the lintels of the side chambers were probably immediately above the pilaster capitals. It has been suggested[3] that the two topmost courses, and the cornice, were continued across the front above these lintels, thus forming a shallow well in which a pitched roof could be concealed—a common feature of Mediterranean architecture.

The presence of a socket for a beam in the face of the south pilaster (pl. XXI, *a*) and a vertical groove in the base moulding of the north pilaster (pl. XXI, *a*) suggests that at least part of the platform was covered by some sort of canopy and perhaps provided with a balustrade, but the nature and extent of this construction can only be determined by examination of the fallen cornice blocks from the front of the podium. Other problems might be elucidated in the course of a full architectural survey, since much of the fallen stone is present and identifiable. This, and the remarkable state of preservation of the building as a whole, is largely due to the fact that the later inhabitants of the area have been in the main troglodytes, who had no need to rob the site for building stone.

In view of an inscription found in the vicinity (below, p. 79) it seems probable that the Punic deity Melqart, under his Latin form Hercules, was worshipped here. The tripartite cella was not designed for the worship of a triad of equal gods, for the central compartment with its doorway is the focal point of the shrine, and the open chambers to right and left are subsidiary. The Punic gods do not, as a rule, occur in groups of three; where they are in association, they are in pairs.

Three temples of Africa Proconsularis have certain features in common with Gasr el-Gezira. The temple of Saturn (Baal Ammon) at Thugga, dedicated in A.D. 195, on the site of an earlier building, probably also a temple, has a cella that consists of three independent chambers.[4] They lie at the rear of a large court surrounded by a portico. The central chamber stands a little higher than the other two, it was railed off from the portico, and had a door. All three compartments had round-headed niches in the centre of their rear walls, the central one being more elaborate than the other two, with two small columns in front of it. The second example, in this case associated with three equal deities, is the Capitolium of Althiburus,[5] which has two smaller chambers on either side of the cella, projecting as wings beyond the lateral walls of the temple. There appears to be no direct communication between these rooms and the cella. In front of the temple was a court. The stone floor of the pronaos stood three metres above this, and

[3] We are indebted for this suggestion to Mr. G. U. S. Corbett, F.S.A., but have not reproduced it in the section, since there is no evidence on the point.

[4] Cagnat and Gauckler, *op. cit.*, pp. 84–5 and pl. XXV.

[5] *Ibid.*, pp. 8–10 and pl. IV.

no trace of any means of communication between the cella or pronaos and the court below, such as a central flight of steps, remains in the present state of the ruins. The third temple is that of Henscir Khima,[6] which also has two lateral wing chambers on either side of, and independent of, the main cella. All three temples face east.[7]

It is not yet possible to date Gasr el-Gezira, but the quality of the masonry suggests that it is not later than the early third century. Fragments of terra sigillata were found close by. Only excavation can decide whether it was surrounded by a court, or throw light upon any means of access to the platform other than through the lower storey.

Excavation should also confirm or disprove the view that this building is a temple. The reasons for this identification are: (1) the absence of *loculi* or any other arrangement in the lower chambers for the disposal of the ashes or bodies of the dead; (2) the three-fold arrangement of the cella, for which no exact parallel has been found, but which bears comparison with structures in several temples; (3) the wooden floor which, unfamiliar though it is in temples, would seem still more unusual in a monument to the dead; (4) the existence of the inscription concerning an image of Hercules, and the apparent absence of any funerary inscription. The size of Gasr el-Gezira is not in itself conclusive, though the majority of mausolea are usually much smaller, a typical temple-like one being that south of Ras el-Gattar in the Wadi Gsea, which measures 4·30 × 3·20 metres. Some very large mausolea of differing types are, however, known in North Africa, such as Gasr Doga in the eastern Gebel (14·25 × 9·40 metres),[8] Henscir ez-Zaatli, of temple form, in Tunisia (*c.* 5·50 × 10 metres)[9] and Morsott in Algeria (14·00 × 6·80 metres).[10]

The site of Gasr el-Gezira is not inappropriate for the high place of an ancient Punic god, commanding, as it does, on the one hand, the towering escarpment above the coastal plain and, on the other, the approaches to the great desert. If it is a temple, it is the third to be found in the interior of Tripolitania, the others being the sanctuary of Ammon at Ras el-Haddagia, Breviglieri, dated by a Neo-Punic inscription to A.D. 15–17,[11] and the similar building, Senam Tininai, near the Wadi Sofeggin, between Mizda and Beni-Ulid.[12] Both these temples had a single cult-chamber, with pronaos.

The Inscription (pl. XXII, *b*)

Local enquiry elicited the fact that there had been an inscription in or near the temple many years before, which had subsequently been carried off by one of the local inhabitants; it was eventually found in a troglodyte dwelling near by and removed to

[6] Cagnat and Gauckler, *op. cit.*, p. 120 and pl. XXV.

[7] A curious three-fold shrine in Britain may also be mentioned, the Triangular Temple of Verulamium (R. E. M. and T. V. Wheeler, *Verulamium*, London, 1936, pp. 113–20). This had at its north end a central shrine, containing the statue of the deity, and on either side of the shrine secondary compartments, in each of which was a small, brick-lined pit. Burnt fragments of dedicatory objects under the pits included pine-cones, which are taken to indicate an eastern cult, perhaps that of Cybele.

[8] H. S. Cowper, *The Hill of the Graces*, London, 1897, p. 238 and fig. 27. A. Merighi, *La Tripolitania antica* ii, Verbania, 1940, pp. 147–8.

[9] H. Saladin, 'Rapport sur la Mission faite en Tunisie, 1882–83', *Archives des Miss. scientif.*, 3me. sér., xxiii, 1887, p. 129.

[10] S. Gsell, *Monts. antiques de l'Algérie*, ii, Paris, 1901, p. 81. The mausoleum at Morsott is a two-storeyed building and has two doors at ground-level like those of Gasr el-Gezira, one at the side, under the cella, the other in front, slightly to one side. The chamber to which the latter gives access, however, was regarded by Gsell as an addition to the original structure.

[11] R. G. Goodchild, 'Roman Sites on the Tarhuna Plateau of Tripolitania', *Papers of the B.S.R.* xix, 1951, pp. 51–6. Goodchild remarks (p. 55) that probably 'the cult-statue was intended to be seen but not closely approached'.

[12] *Ibid.* p. 55, n. 25.

Tripoli Museum. It proved to be a limestone block of irregular shape, about 17 centimetres thick and 30 centimetres high by 31 long. Its irregularity may be the result of subsequent damage—both ends are missing—but it seems likely that it was only roughly dressed and plastered into a wall. It contains, in a sunken panel 7 centimetres high and running the length of the surviving portion, two lines of lettering $2\frac{1}{2}$–3 centimetres high, forming the middle part of a dedicatory inscription

de]I. HERCVLIS.SIMV[lacrum
?]M.PACATVS.AMIL[. . . .

recording the presentation of an image of Hercules. It seems unlikely that this was the cult statue, since the inscription is not sufficiently imposing. The lettering, especially the M of *simulacrum*, has features found in Rustic forms, and so is not likely to be earlier than the mid-second century.

The name of the donor is of particular interest, since the third name can with fair confidence be regarded as Punic, either AMILITIS or AMILCAR. Amilitis occurs on an inscription at Lepcis, which must be post-Severan, and which appears to refer to a *patronus* of the city.[13] Amilcar, the Latinised form of the Punic 'Abdmelqart, servant of Melqart, is found more frequently in Latin inscriptions further modified to Ammicar,[14] but 'Abdmelqart occurs three times on Neo-Punic inscriptions in Tripolitania.[15] The name Pacatus has not hitherto been found on Tripolitanian inscriptions, but appears elsewhere in North Africa, though only once as a *nomen*, when it would appear to refer to L. Pacatus Drepanius, proconsul in 389, the friend of the poet Ausonius.[16]

The Punic name Amilitis or Amilcar, together with the Punic antecedents of much of the settlement of the Roman period in Tripolitania, suggests that Hercules here represents the Latin form of Melqart, the once-famous god of the city of Tyre, early equated with Herakles.[17] The god Hercules, who appears on coins of both Lepcis and Sabratha, is mentioned in inscriptions of the second and third centuries at Lepcis,[18] in which he figures as the protective deity of the city, and a priest of his is named in a fourth-century inscription at Sabratha.[19] Herakles also occurs on a Greek inscription from a coastal site near Zavia, between Sabratha and Tripoli.[20] His worship was widespread in North Africa, and many episodes of the Hercules legend are associated with Punic Africa and are to be ascribed to the Punic deity who preceded him. Hercules is not only connected with cities, but is also found in remote places like Calceus Herculis near El-Kantara.

Masons' Marks

Masons' marks were observed on three of the fallen stones in the interior of the temple. They are incised, are about 6 centimetres high, and are respectively A, V and VI.

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[13] J. M. Reynolds and J. B. Ward Perkins, *The Inscriptions of Roman Tripolitania* (*IRT*), British School at Rome, 1952, 591.
[14] CIL viii, 9450, 10525 *bis*, etc.; *IRT* 661.
[15] *IRT*, p. 245.
[16] A. Merlin, *Inscr. latines de la Tunisie*, 1944, 619, Pacat(us Drepanius).
[17] S. Gsell, *Hist. Anc. de l'Afrique du Nord*, iv, Paris, 1929, pp. 301–13.
[18] *IRT* 286–9.
[19] *IRT* 104.
[20] *IRT* 848.

THE TRIPOLITANIAN GEBEL: SETTLEMENT OF THE ROMAN PERIOD AROUND GASR ED-DAUUN

(Plates XXIII–XXIX)

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THIS paper summarises the results of work carried out during the years 1949–51 in the eastern Gebel of Tripolitania. The area had been visited, and some of the sites noted, by nineteenth-century travellers and by Italian archaeologists between the wars, and the adjacent plateau of Tarhuna has been the subject of a recent paper by R. G. Goodchild.[1] My work was complementary to his, and I have not reproduced the details of information so lately set out except where they were immediately necessary.

I was able to spend long periods in the territory while holding the Scholarship in Classical Studies at the British School at Rome and a Research Scholarship at Trinity College, Cambridge, and I am deeply indebted both to the School and to my college for their generous support in unusual circumstances: in particular the latter, for providing a truck which carried me over fifteen thousand miles in difficult country and for a generous grant towards the cost of illustrating this paper. I am grateful, for their unfailing advice and encouragement, to Mrs. Olwen Brogan, to Messrs. J. B. Ward Perkins and R. G. Goodchild, and to Sir Mortimer Wheeler, who originated the idea. Mr. R. M. Bradfield devoted a great deal of his free time over two years to helping me in the field, and must take much of the credit for the results we obtained. I also had the assistance during one vacation of Mr. and Mrs. Alan Wells and Mr. Hugh Seymour. It is hardly necessary to add that the work could not have been carried out without the generous co-operation of the British Administration and the Italian staff of the Antiquities Department; I must thank my friends Professor Giacomo Caputo, then Superintendent of Antiquities, and Mr. and Mrs. Hamilton Browne of the Residency at Tarhuna, whose assistance and hospitality on many occasions made my work a pleasure.

I. GEOGRAPHY AND MODERN SETTLEMENT

Tripolitania comprises the area between the Gulf of Gabes, the Gulf of Sirte, and the Saharan oases of the Fezzan. It is dominated by the great arc of the Gebel escarpment, whose ends rest on the sea at Gabes in the west and Homs in the east; north of

[1] 'Roman Sites on the Tarhuna Plateau of Tripolitania', *Papers of the British School at Rome* xix, 1951, p. 43. Referred to here as 'Tarhuna Plateau'.

the escarpment is a barren sandy plain, the Gefara, stretching to the low seashore and broken only by a few oases, of which Tripoli is the greatest. Towards the south, the Gebel slopes gently to a barren expanse of steppe, intersected by a maze of gullies cut by the quaternary rains, in whose beds are isolated patches of cultivable land and scrub vegetation. These gullies feed four great wadis, Tareglat, Sofeggin, Zemzem, and Bei el-Chebir, which run east and north-east towards the Gulf of Sirte. Of these the

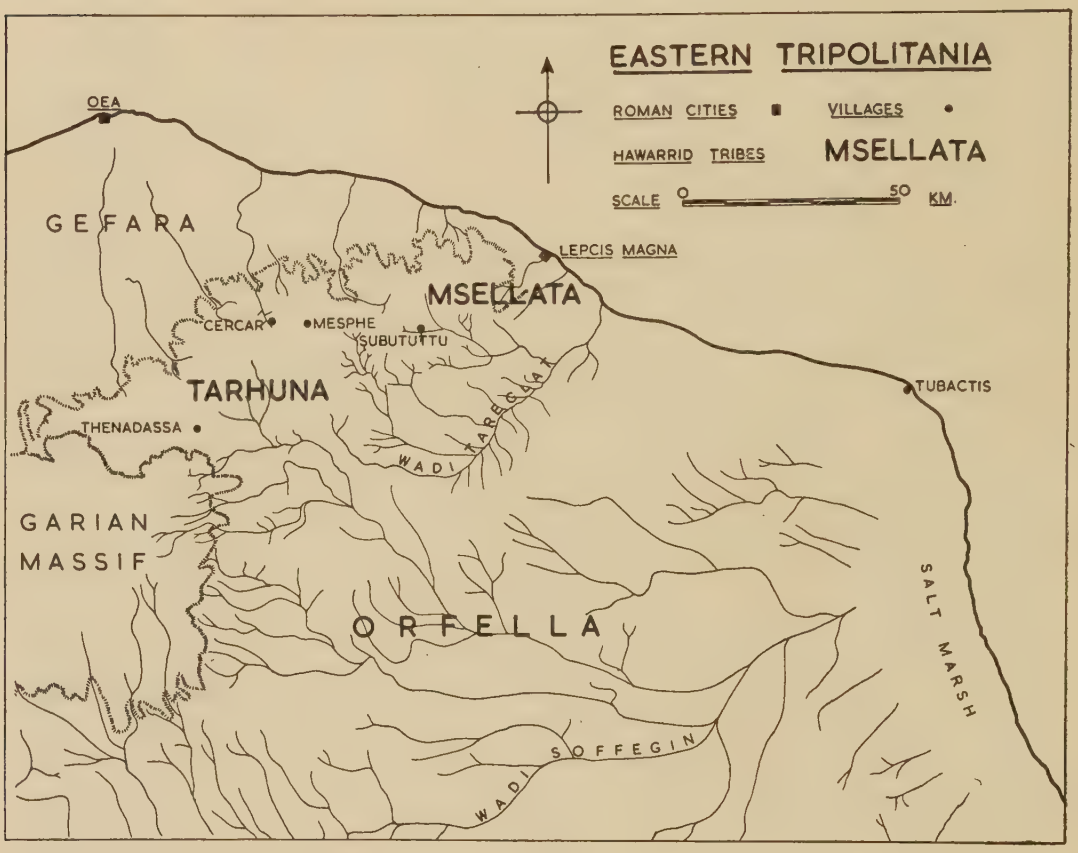


FIG. 1.

first two have their origin on the southern slopes of the hill country, Tareglat—the Κῖνυψ of Herodotus—in the east, and Sofeggin, whose fertile cornlands were famous in antiquity, in the west. The abrupt northern slopes of the Gebel are drained by wadis running north across the Gefara, and their steep-sided watercourses provide the only practicable caravan tracks through the escarpment.

The hill-country itself falls into two natural divisions. Gebel Nefusa, stretching from the central massif of Garian to the Tunisian frontier, is very broken country, rising in places to over 900 metres. It is today the last stronghold of Berber-speaking

tribes, and the comparative paucity of Romanised settlement suggests that its inaccessibility was always a barrier to penetration from the coast. The eastern end of the range (fig. 1), with which we are particularly concerned, is a band of hills up to 500 metres in height and about 45 kilometres across, until just east of the Garian massif it narrows abruptly to a neck 20 kilometres wide between the Gefara and a high sandy plateau. It is now divided between two tribes: the Tarhuna, who stretch from the massif to Wadi Gsea, some 60 kilometres to the east, and the Msellata who lie between Wadi Gsea and the sea. The territory of Tarhuna comprises a few fertile valleys north of the watershed, and a high exposed plateau on the south. The average rainfall exceeds 200 millimetres a year, but drought and the hot south wind are ever-present dangers.[2] As a result the great majority of the native population are semi-nomadic cultivators, although the prosperity of the Italian settlements on the Plateau shows that highly organised dry farming can be a success. The Msellata country, on the other hand, is lower and more undulating, and its nearness to the sea gives it an average rainfall in places of over 300 millimetres; the inhabitants are more settled and prosperous, possessing extensive olive groves, and living in permanent villages rather than in tents. The most important centres in the eastern Gebel are Homs, on the coast, Cussabat, the capital of the Msellata, Gasr ed-Dauun, a market village on the borders of the two tribes, and Tarhuna, the capital of the tribe of the same name. They are now joined by a modern tarmac road along the crest of the Gebel, which after Tarhuna leaves the hills and makes across the Gefara for Tripoli; the region is also served by innumerable camel tracks.

This variety of modern settlement is important, both as an analogy in the study of ancient sites and as a factor in their preservation.[3] At the end of the last century Cowper[4] reported many sites on the Tarhuna plateau which have since been almost completely destroyed by the builders of the Italian settlement. In the less accessible valleys to the north, and the hills of Fergian beyond the settlement to the south-east, they have suffered little, while in Wadi Gsea a similar attempt at European colonisation is moribund owing to wartime insecurity, and only occasional damage has been done. In Msellata, on the other hand, continuity of village settlement since the end of the Roman period has overlaid and obliterated much of the evidence. Surveys by the writer, from a base in Wadi Gsea in the poverty-stricken Italian colony of Villaggio Marconi, covered an area stretching from the northern wadis of Tarhuna to the Tareglat, with occasional forays through Msellata to the hills behind Lepcis. The sites on the plateau had already been studied by Goodchild, and the most complete record of new material extends over some 300 square kilometres centring around Gasr ed-Dauun, where the modern market proved to be the descendant of a Roman village. This area (fig. 2) has accordingly been chosen to illustrate the present paper.

[2] In dealing with the Gebel there is no reason to dispute the general view of Gsell and others that the climate in Roman times was substantially the same as it is now. On the other hand, the distribution of rainfall through the year, and the possible annual fluctuation, may have changed for the worse as the result of deforestation. The pre-desert area presents a different problem, and here it is difficult not to postulate a drop in the annual total.

[3] The most impartial survey of the possibilities of agricultural development in Tripolitania is contained in J. Despois, *La Colonisation italienne en Libye; problèmes et méthodes*, Paris, 1935.

[4] H. S. Cowper, *The Hill of the Graces*, London, 1897. Cowper's suggestion that the ruined presses were religious monuments was conclusively refuted by J. L. Myres and Arthur Evans, *Proc. Soc. Ant.*, 2, xvii, 1897–9, pp. 280–93.

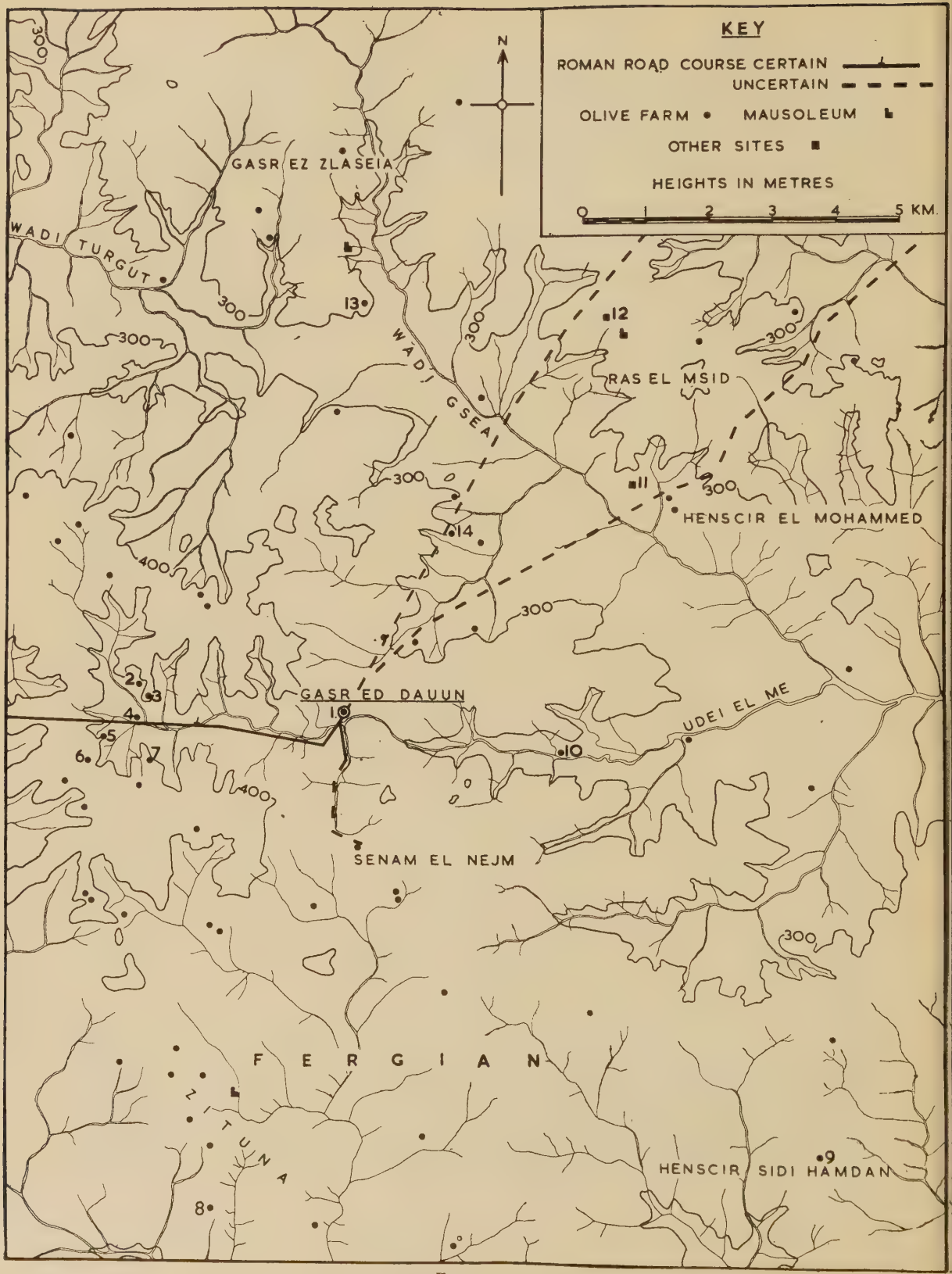

KEY
ROMAN ROAD COURSE CERTAIN
UNCERTAIN
OLIVE FARM
MAUSOLEUM
OTHER SITES
HEIGHTS IN METRES
0 1 2 3 4 5 KM.
N
GASR EZ ZLASEIA
WADI TURGUT
WADI GSEA
RAS EL MSID
HENSCIR EL MOHAMMED
GASR ED DAUUN
UDEI EL ME
SENAM EL NEJM
F E R G I A N
ZITUNA
HENSCIR SIDI HAMDAN
300
400

FIG. 2.

II. GENERAL DESCRIPTION OF THE EVIDENCE

In brief, the sites examined proved to be of two periods, the first representing the extension of intensive dry farming during the main period of Roman influence, from the first to the middle of the fourth centuries A.D., and the second the establishment on the same lands of a prosperous though barbaric native society, probably as a result of invasions from the pre-desert country during the late fourth and early fifth centuries. The form and origins of this early medieval society involve a discussion of complexities of Berber history which would be out of place in the present context, and will form the subject of a later paper. Before turning to examine individual sites of the first period, a short description of their common features may be useful. The data here given are the result of surface survey; the first essential was to record and distinguish the types of site, a work which left little opportunity for excavation, though this is desirable both to test the results and to establish a proper chronology. It must, however, be remarked that in the Tripolitanian countryside more is visible above the surface of the ground than is normally the case elsewhere, and all too often nothing survives beneath it—the ancient ground level is frequently either exposed or already eroded.

The sites consist for the most part of farms of varying size with their associated works for water control and supply, a few mausolea, and here and there a small village such as the one at Gasr ed-Dauun. The farms and villages are characterised by the absence of formal defences—their principal difference from the fortified farms hitherto regarded as representative of Roman settlement—the high standard of construction, and their general aspect of prosperous security. The feature of a building of this period that leaves the most distinctive trace is the walling of concrete, sometimes faced with small coursed blocks, and strengthened at intervals of 2 to 3 metres by dressed limestone orthostats. These walls are often set on a foundation course of large blocks. They sometimes survive intact to a height of a metre or more, with the single- or multiple-block orthostats standing up to as much as 5 metres, but more often the orthostats alone remain to mark the line of the wall, with the filling between them showing as a trace of concrete on the surface or as a soil mark. This form of construction is commonly used for all purposes in the farm buildings, but is often supplemented by plain concrete or by fine masonry of large blocks, and in some cases, where lines of orthostats survive with no trace of filling, this may have consisted of mud brick; the difference of material would appear at present to be one of quality and expense rather than of period. The common feature of all these types of walling, which distinguishes them from later work exhibiting the same characteristics in a debased form, is the uniform thickness of the wall at 50–55 centimetres. Even more precise conformity to this particular measurement has frequently been observed in buildings of the Roman period in the coastal cities, but its exact relationship to the local scales of measurement has not been determined. Surviving traces show that these walls, with the exception of obviously decorative masonry, were commonly faced with cement or painted plaster. The stone used is local limestone, of which abundant supplies are available.

The second conspicuous feature of the farms, which gives the key to the whole agricultural economy of the region, is the very large number of ruined olive presses. These

are of the lever type,[5] which appears to have had a very long life and certainly went on being used in its original form well after the Roman period; a modification of it is still in use among the Arabs today. The press (fig. 3) consisted of a wooden lever up to 9 metres in length, having as its fulcrum a wooden bar fixed in holes in two stone uprights. The olives were placed under a wooden slab attached to the lever at a distance of some 2 metres from the fulcrum, and pressure was applied by means of a windlass or screw,

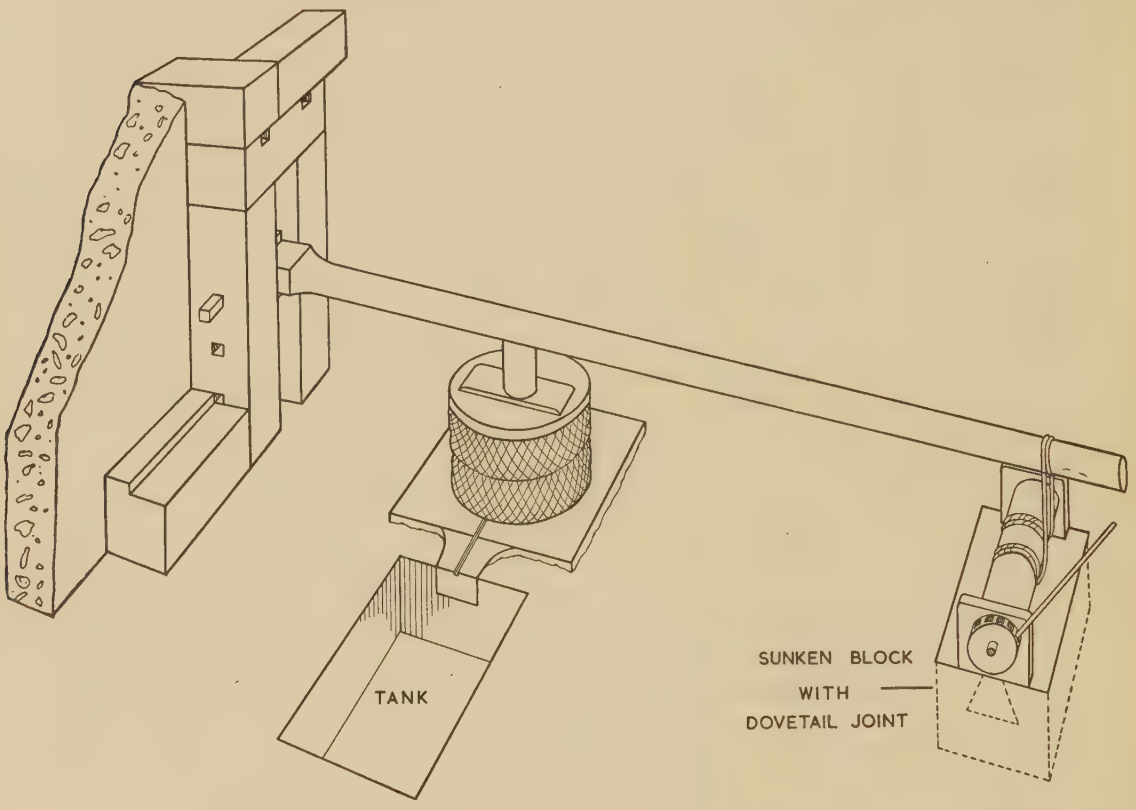


Fig. 3.—Schematic Drawing of an Olive Press.

mounted on a heavy weightstone, which forced down the free end. The oil ran out into a channel cut in the stone slab on which the olives rested, and thence into one or more tanks lined with *opus signinum*. The wooden parts have naturally perished, and their existence has had to be deduced, but of the more permanent elements one at least and sometimes all are plainly visible. The most striking relics of the press, and often of the farm, are the twin stone uprights carrying the bar that stopped the butt of the lever.

[5] A reconstruction of a very similar press to those described here is illustrated by H. Saladin, in 'Rapport sur la mission faite en Tunisie nov. 1882–avril 1883', *Archives des Missions Scientifiques*, 3, xiii, 1887, and a generalised sketch of a Tripolitanian press appears in Myres and Evans, *op. cit.*, p. 286. For the literary evidence see A. G. Drachmann, 'Ancient Oil Mills and Presses', in *Archaeologisk-Kunsthistoriske Meddelelser, Kgl. Danske Videnskabernes Selskab*, Bind I, Copenhagen, 1935.

These may consist of monolithic columns, or of several blocks one on top of the other; they are set in a slightly recessed base, flush with the ground, and crowned for extra stability with a capstone, often with heavy weights superimposed on it which were bonded into the wall behind the press. The bar was sometimes slid through a transverse hole in one upright to rest in a corresponding slot in the other, or alternatively fitted into slots cut in the front inner corners of the uprights: a combination of holes with angle slots in the same press is sometimes found, and the method of mounting the bar would not appear to have any especial significance. Almost all types provide for three possible positions of the bar, the lowest at about 1 metre from the ground, and the other two at intervals of about 60 centimetres above it. The bar was presumably lowered to obtain a better purchase as the olives were compressed. The uprights of the press attain a height of 3 metres or more, and its total height may be 4 or 5 metres. Holes facing forwards in or above the capstone probably held the beams that supported the tackle for lifting the lever.

Less often visible are the pressing slab, with its adjacent tanks, and the weightstone. The slab is normally a block about 2 metres square and of varying thickness, with a projecting tongue in front or at one side to carry the channel that conducted the oil into the tank. This channel communicates with another, either circular or square, cut in the top of the slab, the purpose of which may have been either to collect the oil or perhaps to retain the sides of the tub in which the olives were placed. The oil tanks are usually placed, one by the side or in front of each pressing slab. At the coastal villa of Ras el-Hammam near Lepcis they are arranged in series of three, a system which facilitated the progressive separation of the oil from the water and sludge which form sixty per cent of the original extract from the olives. This arrangement is only rarely found in the Gebel, where the oil must normally have been skimmed off the surface of the tank. The weightstone consists of a dressed block, about 2 metres by 1, with a depth of $\frac{1}{2}$ metre. In its upper surface, at right angles to the line of the lever, is a groove 10 centimetres in width and depth, linking two large dovetails cut in the ends of the stone. This carpenter's joint suggests that the stone originally carried some form of wooden mechanism to haul the beam down. The force that could be applied by a press, massive though it seems, would hardly be sufficient to press the olives without preliminary crushing.[6] Objects commonly called olive-crushers are found on the sites, sometimes in the form of simple stone mortars, more often with the central socket of the rotary crusher. Their purpose was certainly to grind something, but their very small capacity and comparative rarity make it unlikely that they were an invariable accessory in large-scale production.

The remains of the farms themselves thus attest the preoccupation of their inhabitants with the production of oil for export by the technique of dry farming, the only possible method of cultivation over nine-tenths of their land. This was supplemented in places by the growing, in smaller quantities and probably for local consumption, of crops requiring a more humid soil. This was made possible by terracing the wadi beds in their steeper courses with concrete barrages built at intervals across them; the remains of these barrage systems constitute the second group of evidence for Roman

[6] Calculations based on the weight of the stones and the breaking strain of the wooden components give a maximum pressure of about 15 lb./sq. in. I am indebted to Dr. T. E. Faber for this information.

agriculture in the Gebel, and it will be convenient to summarise the evidence for their function before dealing with the complexities of individual sites.[7]

They vary in form from the short, thick, and high dam crossing a narrow ravine, which at first sight most forcibly suggests a reservoir, to the long, low, and narrow wall set in a broader and flatter part of the wadi bottom. There is no reason in fact to think that this difference represents more than an adaptation of the type to varying circumstances. An excellent example of the first variety, often photographed by travellers, is to be seen by the side of the modern road in Udei el-Me above Gasr ed-Dauun (pl. XXIII*a*). The visible length of the barrage is 16 metres, and its height just under 5 metres. The greatest thickness is 5 metres at the base, which is reduced in steps on the downstream face to 1·70 metres at the top. The structure is apparently almost intact, if we restore the fragment lying beside it in the wadi bed, and it went out of use because the watercourse, which was little smaller than at present, found its way around the southern end. It was increased in height two and perhaps three times, though it is difficult to say which of the increases represents merely a stage in building, and which a measure necessitated by silting on the upstream side.

To elucidate this point, we must refer to a dam of similar proportions, also practically complete, in Wadi Turgut, a short distance below the wells of Bir Damra (pl. XXIII*b*). Its overall length is 13 metres and height 8 metres; the downstream face is in this case sloped, rather than stepped, back to resist the undermining effect of water cascading over the top. The thickness at the base is 3·50 metres, but there is an 80-centimetre overhang on the upstream face at a height of 4·60 metres. This demonstrates that, when the dam had become choked with silt up to this height, it was thickened and raised to a level that is clearly visible as a second joint, with the outline of a spillway, along the upstream face, 1·50 metres above the overhang. Later it was raised a further 1·50 metres to its present height, this time without thickening. If the object of the dam had been to store water for irrigation, an increase in height of 1·50 metres would have been an absurdity, since it gives a very shallow reservoir with a large area for evaporation, and the water would have been wasted by this means and by seepage faster than it was used. Clearly the object was to collect earth above the dam, and at the same time to slow down the spate and minimise its capacity for destruction, while retaining just as much water as would sink into the fertile soil thus created. This would also raise the level of the underground water table, and it is possible that water for irrigation was drawn from wells sunk in the earth above the barrages. No traces of well-heads or channels have been observed, but the method is widely employed in the terraced gardens of Gebel Nefusa.

There can be no question that the purpose of the long thin walls found in the open valleys of the lower Udei el-Me and Wadi Gsea was the same. These would have had neither the height nor the strength to hold much water, and their design shows that they were intended to deflect and spread the torrent rather than to contain it. A large proportion of the structures examined are of this type, and it is obvious that they were useful only as elements in a large system of flood control. Constant maintenance was necessary to keep the system functioning, and evidently the erosive force of the water

[7] A detailed survey of the Udei el-Me series was made in 1950 by R. M. Bradfield and A. Wells, and will form the subject of a separate article.

was always a considerable danger. When they broke, the effect was cumulative and eventually disastrous, as can be seen at the lower end of the series, below the junction of Udei el-Me and Wadi Gsea. Here the present width and depth of the gorge are many times that of the original watercourse, whose profile is preserved in the cement face of one of the dams (pls. XXIII*c* and *d*). The effort involved in building and maintaining about sixty of these structures of various sizes in Udei el-Me and its tributaries alone shows that the benefit derived from them was considerable, and that the produce of the land they protected, with the water they provided for it, must have been very valuable. Nevertheless, it would be a mistake to suppose that, since the methods employed are paralleled in modern large-scale schemes of erosion control, these ancient systems were more than local in their usefulness. Where they were not immediately necessary they were not used; there is only one dam in Wadi Gsea above its confluence with Udei el-Me, since its rate of fall is gentler and there was probably only a gully in isolated places; and they occur very spasmodically in other wadis.

Unfortunately there is no evidence what authority or social group was responsible for the individual systems, though the lack of continuity between them suggests that the authority was local rather than central. Their existence does, however, demonstrate that spates were the normal result of rainfall as they are today, and hence that the surface erosion of the upper catchment area was already advanced at the time when they were built. When this was, we cannot say with accuracy. Strabo attributes a barrage at the mouth of Wadi Caam, just above the source of the Lepcis aqueduct, to the Phoenicians,[8] and Frontinus in the first century A.D. mentions their construction as an African habit.[9] At all events they were maintained for a considerable period, and a similar system, using earth banks, persists in the Gebel Nefusa and in Msellata to this day; the produce of these Arab gardens—figs, melons, and other fruit for the local market—probably represents the type of crop raised in Roman times.

III. INDIVIDUAL SITES

Returning to the sites themselves, an account of some individual examples will help to clarify the general description given above. The places mentioned are numbered for ease of reference on the accompanying map (fig. 2), and we shall look first at the traces of Roman occupation at the nodal point of the whole district.

(1) *Gasr ed-Dauun* (*Subututtu*) (Pl. XXIV; fig. 4).

Gasr ed-Dauun is, and probably always has been in historic times, the market village for the regions of Fergian, Gsea, and Turgut. It is the focus of their communications; in addition to the Homs–Tarhuna–Tripoli road mentioned above, several important camel tracks pass through or near it. The main route from Gasr Garabulli in the Gefara comes up Wadi Turgut and passes down Wadi Gsea to the villages of the lower Tareglat, whence branches lead either to Zliten on the coast or to Beni Ulid, the capital of the Orfella in the pre-desert area. A further branch of this track, called the Trigh el-Arza or 'Track of the Columns'—perhaps from the number of ruined olive

[8] *Geogr.* xvii. 3. 18–19. It is impossible to say whether this passage refers to any of the surviving structures in the Wadi Caam.

[9] *De controversiis agrorum* ii.

presses which are its landmarks—leaves it in the upper Turgut, crosses the modern road just west of Gasr ed-Dauun and runs south-east through the Fergian to the upper Tareglat. Other important tracks link the village directly to Cussabat, to Amamre, one of the richest areas of Msellata, and to the middle Fergian. The antiquity of these routes cannot be proved, but it is significant that they appear to serve those districts where ancient sites are most thickly distributed; and it is interesting to see, in the gully known as Sciaabet el-Kheil, which is the normal approach to the market from the south, the boulder revetment of an old road running along the hillside above the level of the Roman barrages through whose ruins the modern track passes. The discovery of two Roman milestones[10] only 20 metres from the embankment of the modern road in Udei el-Me, $2\frac{1}{2}$ kilometres above the village, confirms that the Roman highway from the Tarhuna plateau to Lepcis[11] passed through the market. Thereafter, if we accept the existence of a mile-station at Cussabat, it must have followed the track either of the modern road south of Ras el-Msid, or of the more direct caravan route north of the hill. Of the two the second seems more likely, both from the presence of ancient sites along it, and from the fact that it crosses fewer and smaller wadis, a most important consideration for a road that must carry wheeled traffic in the rainy season.

The remains of the village itself have been largely obliterated by fifteen centuries of erosion and of almost continuous settlement around its wells.[12] Unlike the two villages of Mesphe and Thenadassa, recorded in the Antonine Itinerary,[13] whose sites have been identified at Medina Doga and Ain Wif farther to the west, the surviving traces of its buildings do not suggest any attempt at formal alignment, but rather a long straggling line of houses beside the road. These can be traced at intervals from the junction of Udei el-Me with a northern tributary on the west side of the bowl in which the wells lie, over the low ridge which separates it from the western tributaries of the upper Gsea. On the north side of the watercourse near the road junction the foundations of several small buildings with cement floors and *opus signinum* ducts, perhaps drains, are visible at ground level. On the other side of the wadi bed a single wall running south-west gives the alignment of a building, which may originally have stood beside the road; the watercourse must have been crossed near this point, and it is possible that a concrete dam, which runs part of the way across, was in fact the retaining wall of the road embankment; it appears too wide and low to have served any other useful purpose. A short distance to the west a circle of red, burnt brick seems to indicate the presence of a pottery kiln of similar size to those at Ain Scersciara.[14] The flat ground to the north-east beside the modern road is littered with potsherds, and occasional fragments of concrete wall are visible; and a mound just south-east of the road, where it bends to leave the bowl, evidently conceals the remains of a small bath-house whose hypocaust flues protrude at its northern corner. Trenches in other adjacent mounds, dug to extract building material for the road and for the Italian aqueduct, show a roughly geometrical pattern that suggests the presence of ancient buildings, and others may lie

[10] For text see Appendix I, p. 114, J. M. Reynolds and J. B. Ward Perkins, *Inscriptions of Roman Tripolitania*, 936 and 937.

[11] 'The Eastern Gebel Road' in Goodchild, *Roman Roads and Milestones in Tripolitania*, Tripoli, 1948.

[12] Traces of settlement here were noticed by Bartoccini 'Le Antichità della Tripolitania', *Aegyptus* vii, 1926, p. 66.

[13] *Itineraria Romana* i (ed. Cuntz), pp. 10–11. For Mesphe see Goodchild, 'Tarhuna Plateau', pp. 46 ff., and for Ain Wif, Goodchild and Ward Perkins, 'The Limes Tripolitanus in the light of recent discoveries', *Journal of Roman Studies* xxxix, 1949, p. 84.

[14] Goodchild, 'Tarhuna Plateau', p. 56.

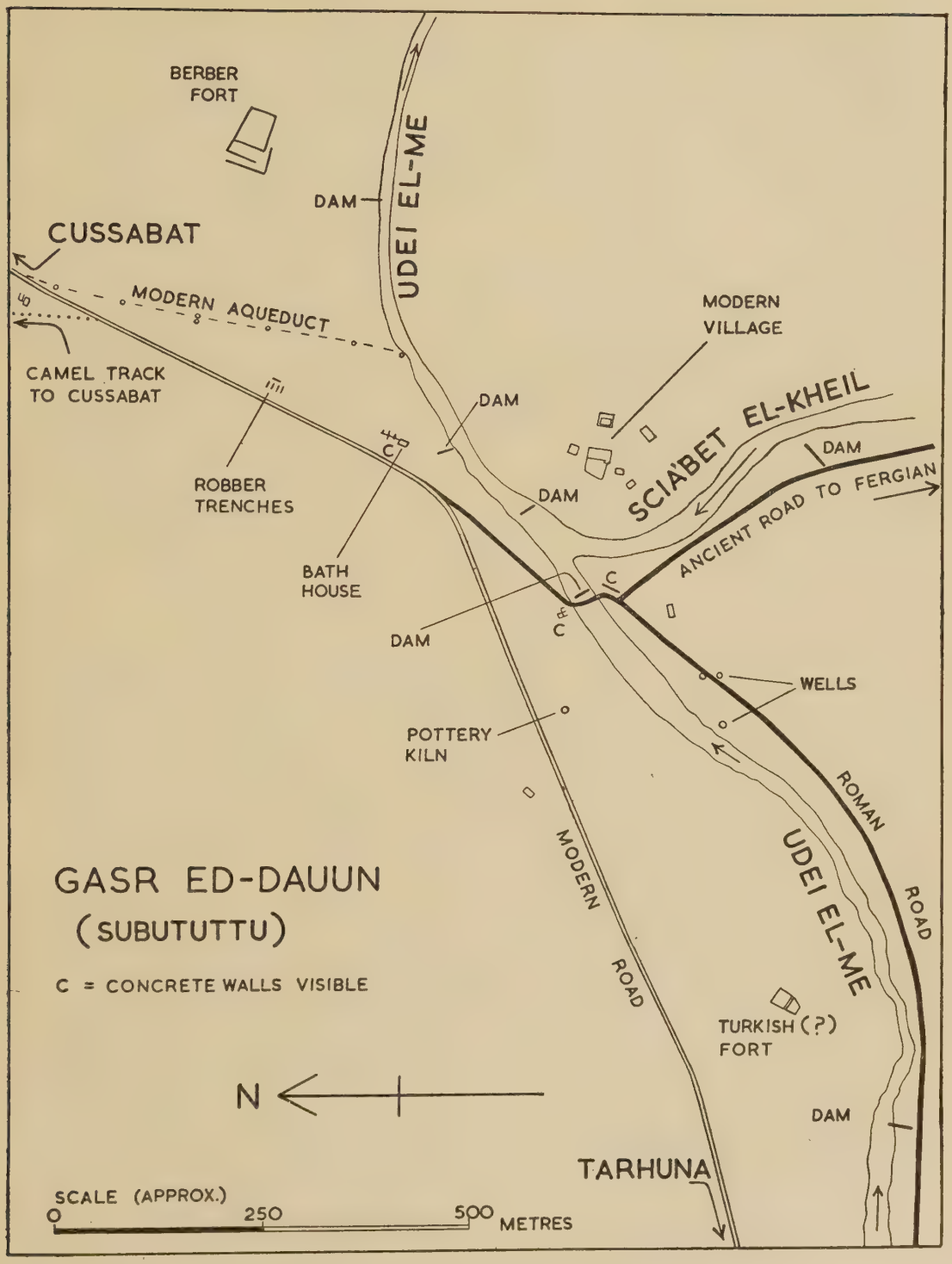

BERBER FORT
DAM
UDEI EL-ME
CUSSABAT
MODERN AQUEDUCT
MODERN VILLAGE
CAMEL TRACK TO CUSSABAT
DAM
SCIABET EL-KHEIL
DAM
ANCIENT ROAD TO FERGIAN
ROBBER TRENCHES
DAM
BATH HOUSE
C
C
C
DAM
WELLS
POTTERY KILN
ROMAN ROAD
UDEI EL-ME
MODERN ROAD
GASR ED-DAUUN
(SUBUTUTTU)
C = CONCRETE WALLS VISIBLE
TURKISH (?) FORT
N
DAM
TARHUNA
SCALE (APPROX.)
0 250 500 METRES

FIG. 4.

beneath the hummocks beside the present-day village to the south. The north-eastern outskirts of the village are marked by concrete foundations just over the ridge, where the Cussabat camel-track parts from the main road. In the fork are the vestiges of a small rectangular building, and other walls run up the hillside, with an *opus signinum* channel on their upper side to catch the rain-water from the slopes above. Cowper[15] reports Roman columns and capitals from Gasr ed-Dauun, and a few bases and simple Ionic capitals now lying outside House No. 2 at Marconi are said to have come from here.

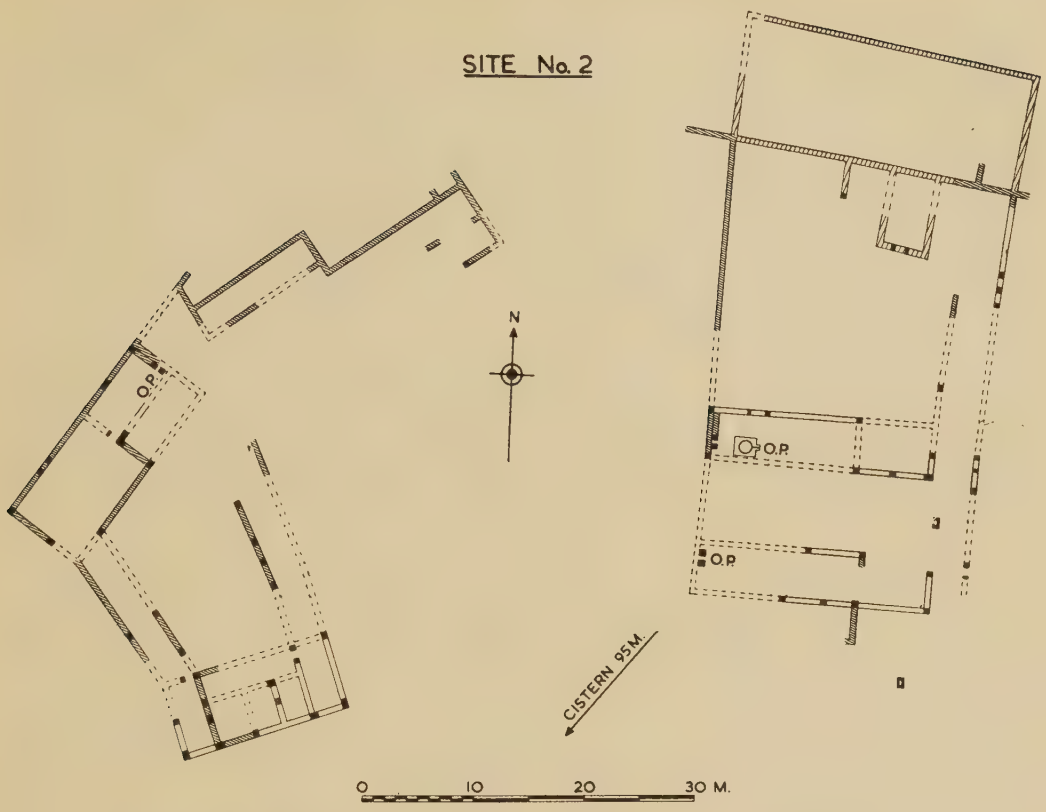
Although there is no mention in the Antonine Itinerary of a road station between Lepcis Magna and Mesphe, the Peutinger Map[16] shows a loop road between Lepcis and Oea which is almost certainly the same route. There is an obvious error at some point in the distances given on the Map, but it marks two places, Subututtu and Cercar, the former lying 25 Roman miles from Lepcis and the latter 15 miles farther on. Calculating from the mile-station discovered in Udei el-Me, which bears the number XXX, Gasr ed-Dauun lies approximately 28 Roman miles from Lepcis, and a further 15 miles brings us to the pottery kilns and villa at Ain Scersciara, which has been provisionally identified with Cercar.[17] We may thus suggest the identification of the village at Gasr ed-Dauun with Subututtu. The difference in the names given in the Itinerary and on the Map along the same road may be explained by supposing that in this area at least the Itinerary gives semi-official stations while the Map marks places of more commercial importance.

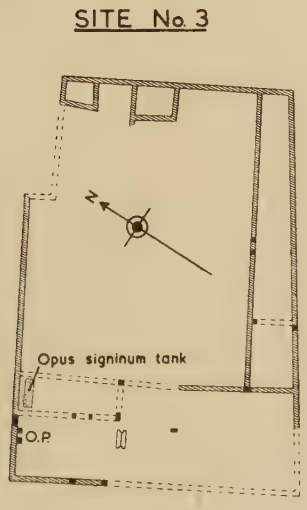
(2) *Olive Farms* (Pls. XXV–XXVIII; figs. 5–8).

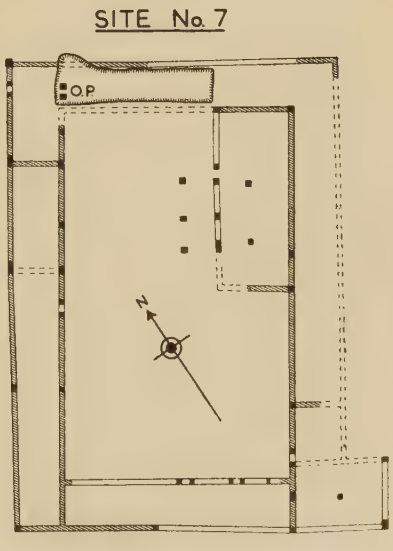
Above and below Gasr ed-Dauun, in Udei el-Me and its tributaries, is the skeleton of one of the barrage systems whose function has been described above. The hillsides around now yield only scanty pasture with an occasional patch of barley, but the large number of small farms whose ruins break the skyline show that the village was formerly surrounded by extensive olive groves. A group of these sites lines the crests around the head of Udei el-Me. They are not well-preserved by comparison with others farther to the south, but their condition is typical of a large majority of the sites examined, and the rudimentary plans recovered in three cases give a good idea of the haphazard layout of many of the smaller establishments.

The northernmost of these farms (Site 2, fig. 5) lies on the north side of a gully just west of the main northern tributary of Udei el-Me. The visible traces are nearly all of Roman work, the filling between the orthostats being of concrete faced in some places with small dressed blocks. The rebuilding of some parts in unbonded rubble does, however, indicate a later reoccupation, which may have assisted Nature in denuding the eastern half of most of its masonry. The plan clearly shows that the buildings were in two separate groups. That on the west is composed of three buildings, of which the lower two were joined by pairs of connecting walls, probably rows of small rooms enclosing a courtyard. The block at the lower end of the courtyard is subdivided into three large and three smaller rooms, but its function cannot be determined; that at the upper end housed one or perhaps two pressing rooms, with a large workroom in front

[15] *Hill of the Graces*, p. 275.
[16] K. Miller, *Weltkarte des Castorius*, Ravensburg, 1888.
[17] Goodchild, *Roman Roads and Milestones*, p. 25 and n. 24.


SITE No. 2
O.P.
N
O.P.
O.P.
CISTERN 95 M.
0 10 20 30 M.


SITE No. 3
N
Opus signinum tank
O.P.


SITE No. 7
O.P.
N

KEY
Concrete
Unbonded Rubble
Material uncertain
Olive Press
O.P.

FIG. 5.

of them. The concrete that flanks the surviving press[18] was probably the foundation for a slide block on which the fulcrum bar rested when not in use. The north corner of this pressing room seems to have been connected by a boundary wall with the eastern end of a long building, of which only vestiges remain. It was of concrete, with a face of small dressed blocks visible at one point at the north-east end.

Some 20 metres separate this from the eastern half of the site, which is still worse preserved, though its main layout is clear. A rectangular courtyard was bounded on the west by a single wall, and on the east and probably also on the north by rows of rooms. On the south were two pressing rooms, separated by an open space with a drinking-trough at its eastern end. In the northern room the press is again flanked by the foundation of a slide block for the bar, and the pressing slab is also visible. The enclosing wall at least continued to the south, where another drinking-trough appears to be in position. The northern side of the courtyard has been rebuilt in unbonded rubble, to form part of one or more huts with a small courtyard on the crest of the ridge. In the side of the watercourse that now runs some 50 metres below the site on the south are the fragments of a cement-lined cistern, whose position demonstrates that no gully existed when it was in use.

The layout of this site, with a number of small regular buildings on different axes connected in a haphazard manner, suggests a progressive extension during a considerable period of occupation; and the provision of separate pressing rooms in the two halves may perhaps indicate that it was two independent, though adjacent, farms served by the same water supply. The sherds of coarse pottery that litter this and other sites are unfortunately, in the present state of our knowledge, no guide to their dating, since the products of local kilns seem to have remained remarkably constant both in form and material over a long period.

One hundred and fifty metres across the gully to the south-east, on the crest of the opposite ridge, there is a small courtyard farm, built of concrete with irregularly spaced orthostats (Site 3, fig. 5). The single olive press, of which fragments of the uprights, a tank, and the weightstone are visible, occupies the west corner of the farm. Its only odd feature, also observed elsewhere, is that the tank appears to be in a separate room at the side of the press. The south corner of the farm has completely disappeared, but the south-east side was occupied by a row of rooms, one of whose doorways can be seen opening on to the courtyard, and the outline of at least two similar rooms is traceable on the north-east side. The courtyard was apparently closed to the north-west by a boundary wall along the ridge. A cave some 50 metres to the east may be the remains of a cistern, and traces of a rough rubble enclosure on the hilltop testify to later occupation.

In the middle of the valley, near the confluence of its three main gullies and just north of the probable track of the Roman road, lie the remains of another small site (Site 4). It has been so completely denuded by erosion and the depredation of road-builders that identification must be tentative, but a cement-lined cistern, which has been broken into by the cutting of the modern road, and a weightstone and other dressed blocks in the vicinity probably indicate a small olive farm. Just below it, on the other side of the road and of the gully coming in from the north, are the foundations of a concrete building some 4 by 3 metres, with an *opus signinum* duct leading down from it into

[18] Cf. the presses at Henscir Sidi Hamdan, p. 97 below and plate XXVIII*a*.

the watercourse. This may have been part of the farm or an independent building: the track of the old dirt road, which probably follows closely that of the Roman road, passes along its southern wall.

On a spur ½ kilometre to the south-west three or four dressed blocks, a fragment of concrete wall, and a rectangular *opus signinum* tank mark a collapsed olive press (Site 5). The tank is in the common position along the wall beside the uprights. The configuration of the ground makes it unlikely that there was ever more than a simple enclosure, and it may be an outlying pressing room of the larger site on the ridge 400 metres to the south-west (Site 6). Here we can only trace three sides of a perimeter wall of concrete, forming an enclosure 30 metres square. At its northern corner are the uprights of a press with a rectangular *opus signinum* tank along the wall to the left. Near the eastern corner another upright may mark the position of a second press. No sign of subdivisions survives within the enclosure; and though their absence on these sites is often due to heavy erosion in exposed positions, it also suggests that there was not the same necessity here as on the more southerly farms to enclose all the living and working accommodation within the walls.

One kilometre to the east, on a second spur overlooking Udei el-Me from the south, stood a farm whose outline is much more clearly preserved, except on the south-east side, which is covered by clumps of esparto grass (Site 7, fig. 5). It follows the common pattern, with a single line of buildings, whose partition walls and doorways are occasionally visible, surrounding a rectangular courtyard. The only important structural problem is the function of the blocks in the eastern corner of the courtyard, which probably represent the wall and roof-pillars of a long building, the three outer stones perhaps supporting the roof of a portico in front of the door. A similar roof-support can be seen in the middle of the large room that juts out from the south corner of the farm. The most interesting feature of the site is its pressing room (pl. XXV*b*), which is in an orthodox position along the north-east side, but is unique in being sunk into the rock on which the surrounding walls are founded. The present ground level within the room is up to 1 metre below the rock surface, but at least a metre of the uprights appears to be buried, and the original floor was probably some 2 metres below its surroundings. The purpose of this is uncertain, but it would have served to obtain the structural strength necessary to take the strain of the machinery without building high walls in such an exposed spot, and its excavation would have provided stone for the other buildings. Whatever the reason, it was an ingenious idea, which did not find general favour at the time, although the natives at the present day use underground pressing rooms through inability to build sufficiently massive walls and presses above ground.

These six sites may be taken as representative of a large number of smaller farms, which it would be tedious to describe in detail. They are incorporated in the site catalogue (Appendix II), and descriptions have been deposited in the archives of the Department of Antiquities in Tripoli. They are especially numerous in the Fergian, where they appear to be grouped along two tracks previously mentioned, the southern continuation of the Trigh el-Arza along the ridge above Wadi el-Fergian, and the track that runs up Sciaabet el-Kheil and then bends south-east past Senam el-Nejm to the Tareglat. Fragments of *terra sigillata* on many of these sites indicate that the area was developed by the second century at the latest. Its occupation represents the high-water

mark of olive cultivation in the Gebel, and the comparative rarity of ruins of the later period suggests that the recession, once begun, was rapid. Today there are probably not a score of trees in the whole district; but the southernmost group of sites on the Trigh el-Arza occupy an area that is still known as Zituna, the place of olives.[18a] In this group one small farm, whose plan was not recoverable, yielded a small dressed block, part of a wall face, with three letters of Neo-Punic scratched upon it; and a second site

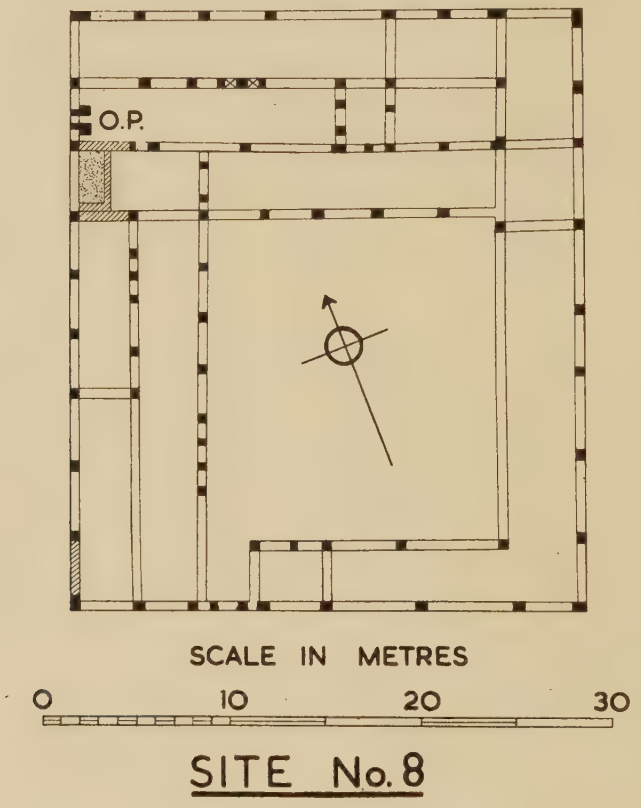


FIG. 6.

(Site 8), which is unusually well preserved, merits description as an example of the more complex layout found in remote places.

It lies 1 kilometre north of the great bend in Wadi el-Fergian, where it becomes Wadi et-Tmarmura, the southern boundary of Roman olive cultivation. It is rectangular (fig. 6), with a single gateway 1 metre wide in the south-west side, which led through a short passage into the west corner of the courtyard. On the south-east and south-west sides were single lines of buildings, and on the north-west a double line, with one or two doorways whose position can be identified, opening on to the yard. On the north-east side a row of four orthostats probably supported the roof of a portico (pl. XXV*a*). One of them still carries a trapezoidal block of the type often found on other

[18a] Col. Baradez mentions another waste tract, with traces of Roman cultivation, near El-Kantara, called "h'mel zitouna" (*Vue Aérienne de l'Organisation Romaine dans le Sud-Algérien*, Paris, 1949, p. 201).

sites,[19] which would have carried the beam supporting the rafters. A door in the middle of the wall behind these pillars led into an ante-chamber giving access to the pressing room on the left, and on the right to the rooms in the east corner of the farm. The uprights of the press, which are well preserved, stand against the north-west wall, and the tank is in another room on their left, apparently with separate access from the portico. The tank is of concrete with *opus signinum* lining. On the far side of the pressing room a low double doorway, whose lintels are just above present ground level, recalls the low quadruple doorways found at Sidi Hamdan, the next site to be described, where they are tentatively identified as the entrances of an olive bin. Concrete filling between the orthostats can be seen at the west corner of the farm and on both sides of the oil tank. Fragments of *terra sigillata* were picked up on the site. Although the purpose of most of the individual buildings is a matter for speculation, there is obviously room for all the living and working accommodation within the walls, and the impression of regularity and careful planning is in strong contrast to the haphazard layout of the other single-press farms described above.

This impression is even more striking when we examine the largest establishment yet discovered, Henscir Sidi Hamdan (Site 9), which lies 10 kilometres to the east between the eastern branch of Wadi bu Adefa and the western branch of Wadi Haiuna, ½ kilometre north-east of the marabout which gives it its name. The track from Gasr ed-Dauun to Wadi Tareglat passes beside it, and there is also a footpath leading north to Wadi Gsea.

The farm buildings (fig. 7, pl. XXVI) surround a rectangular courtyard. Most of the interior walls can be traced only by the lines of orthostats protruding through the rubble that covers the site, so that only the main alignments can be ascertained with certainty, and one must presume the existence of partition walls. Apart from the outer wall (pl. XXVII*b*) and the inner wall on the north-west side, where concrete is visible, the filling between the orthostats may have been of mud brick. Immediately surrounding the courtyard on all sides is a double line of orthostats, the inner row of which incorporates in several places pairs of blocks at the standard distance of 80 centimetres, which usually indicates a doorway. These probably represent a series of small rooms opening on the courtyard, which served as stores or living-quarters for the workmen. In front of them on the north-west and north-east sides are outlying blocks, apparently *in situ*, which seem to mark haphazard additions to the original layout.

Behind the rooms on the north-west side of the courtyard a long passageway runs from an inner gate (A on the plan) the whole length of the olive-pressing rooms, which occupy all this side of the farm. The presses are set in pairs against the inner north-west wall, with one single press at the far end. They were of the multiple-block type, with transverse holes cut usually at the junction of one block with the next above it, and the additional refinement of a rebated block, which stood beside the pierced upright and served to support the fulcrum bar when it was withdrawn (pl. XXVIII*a*). The pressing slabs, tanks, and weightstones are not visible, since the original floor is up to a metre below present ground level. Separating each pair of presses from the next is a large space subdivided by a cross wall into a rectangular room backing on to the inner north-west wall, and a larger square room opening on to the main passage, with a series

[19] Cowper's 'Aref capitals' (*Hill of the Graces*, fig. 35, p. 143).

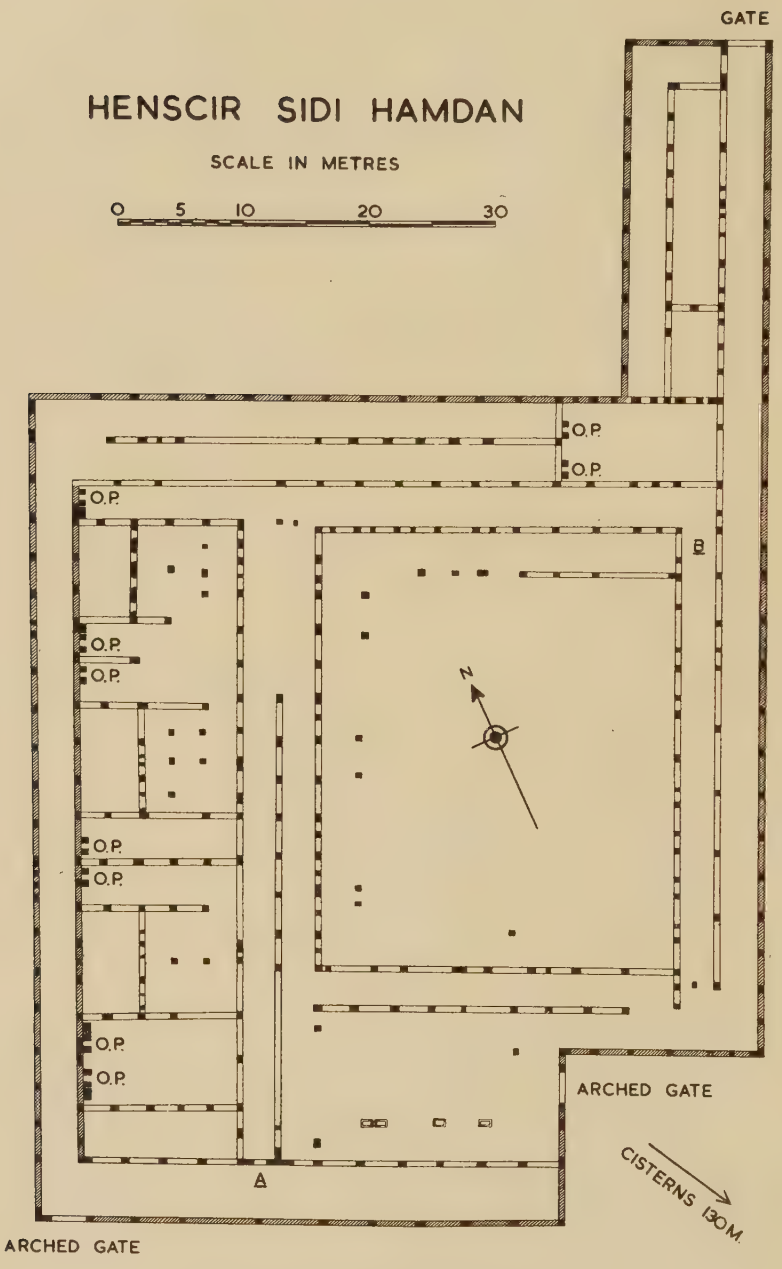

GATE
HENSCIR SIDI HAMDAN
SCALE IN METRES
0 5 10 20 30
O.P.
O.P.
O.P.
O.P.
O.P.
O.P.
O.P.
O.P.
O.P.
B
A
N
ARCHED GATE
CISTERNS 130 M.
ARCHED GATE

FIG. 7.

of orthostats which probably supported a beam roof. The cross wall is pierced in four places by doorways with jambs of a peculiar design (pl. XXVIII*b*). These seem to have held a sliding door, which could be inserted from the inside into vertical slots. At the lower end of these slots a diagonal rebate in the jamb would allow a hinged flap to be raised towards the outside. This ingenious arrangement, with the fact that the room is far too small to have been subdivided internally into four, suggests that it was a bin for the storage of olives, with quadruple doors, which would retain the contents and at the same time permit them to be shovelled out through the flap as required for the feeding of the presses. The larger square room would have served for the auxiliary operations of pressing and perhaps for the storage of oil. Another isolated pressing room is visible near the north-east corner of the courtyard, but the function of the other rooms on this side cannot be determined.

On the south-east side a scatter of mosaic tesserae near the east corner may indicate the presence of a small bath-house just here; the tesserae are of the four common colours of black, white, brick-red, and yellowish-buff. The projecting wing at the east corner of the farm (pl. XXVII*a*), with its separate gateway, is also difficult to explain without excavation, though it may perhaps have housed the living-quarters of the owner or an overseer. On the south-west side a line of small stone drinking-troughs in a subsidiary courtyard suggests that here were kept such stock and draught animals as the farm possessed. The second of the three gates in the circuit wall opens directly into it, while the third gives on to the west corner of the passageway that almost encircles the farm between the inner and outer walls, and would have given access to the pressing rooms. The apparently blank outer wall 5 metres high, which fulfils no structural function, implies strongly that although conditions in general were sufficiently peaceful to encourage such an ambitious agricultural project as this establishment represents, here on the southern border of the Gebel forays from the pre-desert area had occasionally to be reckoned with.

The water supply for Sidi Hamdan was provided by a four-chambered vaulted cistern of concrete lined with cement placed to catch the rain-water from the slopes of the hill, which overlooks the site on its south-east side. The water entered the cistern through a silt tank on the upper side at either end. Vestiges of concrete on the lower side of the cistern suggest that further chambers may have existed, but only the upper four can be clearly traced. These have a width of 3 metres, a total length (excluding partitions) of 35 metres, and a maximum depth at present of 2 metres—to judge by analogy, this was originally 5 or 6, giving a probable capacity of at least half a million litres (more than 100,000 gallons). This may have been supplemented by small rock-cut cisterns just north and east of the farm, whose cement lining appears to be ancient.

In the absence of excavation and a pottery sequence for the territory no definite dating is possible. The great majority of the surface sherds are of the long-lived coarse wares, but the finding of a few fragments of *terra sigillata* would again suggest that the site was occupied by the second century at the latest. Of its end we know nothing, but no signs of intentional destruction or of reoccupation are visible. The general impression given by the ruins is of a planned settlement, using skilled surveyors and masons and—the main point of contrast to the smaller farms—involving a great capital outlay in country that had not previously been exploited, since it stands alone in the south-east Fergian.

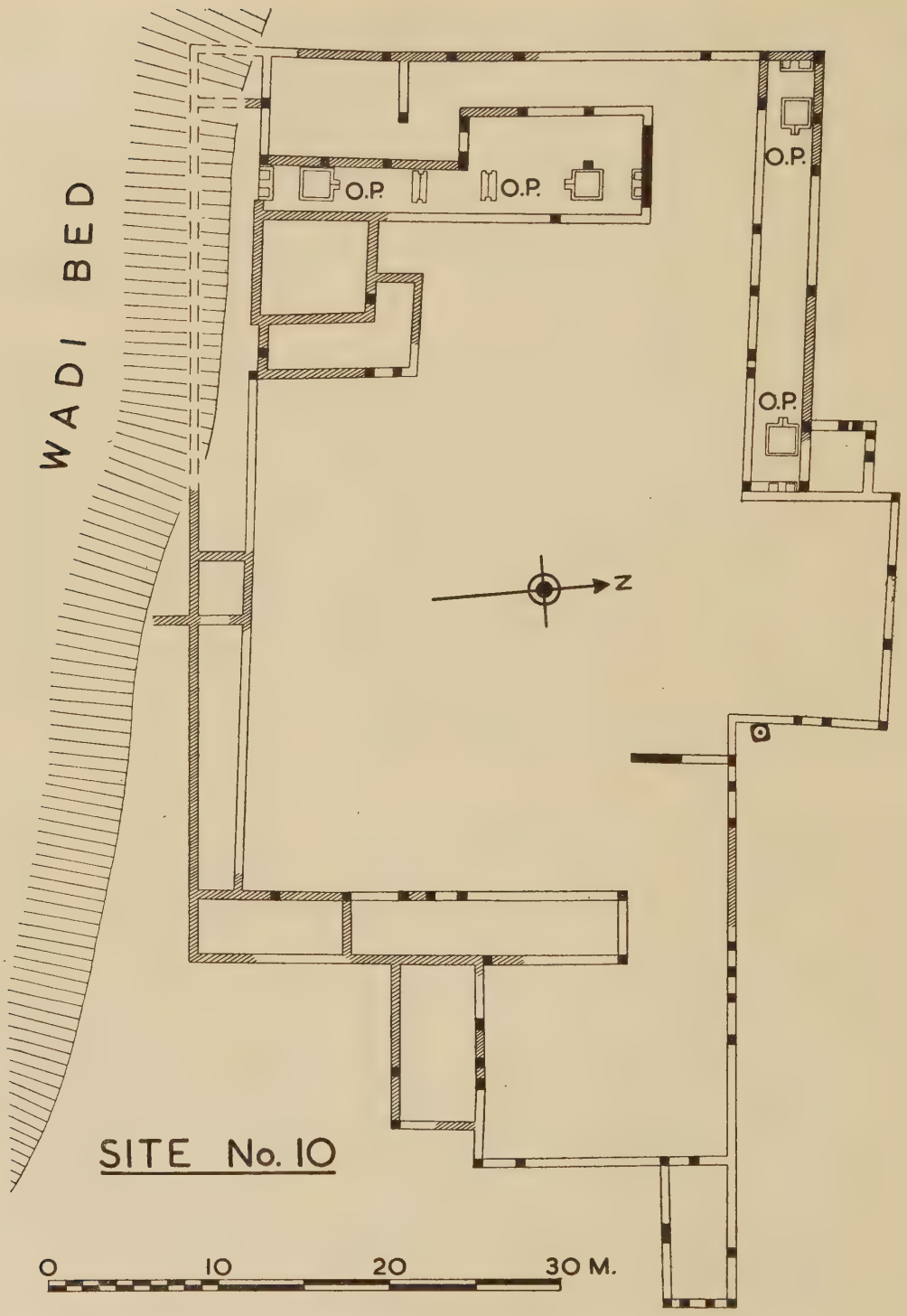


FIG. 8.

Farms comparable in size to Sidi Hamdan did exist nearer the road, but are usually too badly damaged for direct comparison of their layout. Henscir el-Mohammed in Wadi Gsea, of which Cowper published a description and a rudimentary plan[20] has been reduced by Italian quarrying to a barren hummock with two standing presses and a few battered blocks. It originally had eight presses, and its olive groves must have covered most of the wide and fertile Gsea valley, but its buildings occupied little more than half the area of Sidi Hamdan. A good example of the layout of the medium-sized farm is, however, visible in Udei el-Me $3\frac{1}{2}$ kilometres below Gasr ed-Dauun (Site 10, fig. 8). This site had a capacity for oil production almost half that of Sidi Hamdan—four presses as compared with nine—but its actual buildings are meagre and ill-designed by comparison, and seem to have consisted of little more than pressing rooms and stores. It lies on the northern edge of the watercourse, which has cut away its south-west corner. Erosion has removed nearly everything above the original floor level, so that little masonry survives, but the outline of its walls and the elements of the presses are clearly seen. There were four presses at the western end, two facing each other along the north side and a second pair along the west side of an irregular courtyard. A single line of rooms ran along the southern side, and at the eastern end are other rooms grouped around a smaller square courtyard—perhaps living-quarters. It is obvious that there is no accommodation for a large number of labourers within the walls, and many of them probably lived in less permanent dwellings round about; some of the ruined huts, at present undatable, which dot the Gebel hillsides may well be of the Roman period.

(3) *Other Sites* (Pl. XXIX; fig. 9).

The sites described above give a general picture of the various forms of what must be regarded as the type-site of the period, the courtyard farm. Thanks to the unmistakable character of its ruins, we are able to classify a larger proportion of the sites found than might be expected; but inevitably there are some whose function cannot be determined, and others where it can only be surmised. Among these, two badly battered buildings in Wadi Gsea and one, better preserved, in Msellata, are worthy of especial mention.

The track from Gasr ed-Dauun to Cussabat which passes Henscir el-Mohammed, along the course of the modern road, is dominated on the north by a curious ruin on a small hill some 800 metres north-west of the farm (Site 11, fig. 9). Most of the visible remains are those of a small fortified farm, or *gasr*, of the fifth century or later, but this incorporates at its eastern corner a bastion 3 metres square built of solid concrete faced with small coursed blocks, set on a foundation course of large blocks. The method of construction suggests that the bastion originated in an earlier structure, and this is supported by the reappearance of the foundation course of a similar wall, with the outline of a second bastion, beyond the collapsed rubble of the *gasr* to the north-west (pl. XXIX*a*). This continues for 10 metres, after which the block course disappears and the line of the wall is marked only by traces of a concrete inner face on the surface of the ground. The provision of an inner face of this sort is not usual on early farms in this area, but the existence of the earlier building is confirmed by the incorporation, in the rubble of the south-east wall of the *gasr*, of an orthostat with traces of red-painted plaster

[20] *Hill of the Graces*, p. 270.

O.P.
O.P.
SITE No. 15
0
10
20
30 M.
DITCH
DITCH
DITCH
DITCH
LATER BUILDINGS
SITE No. 12
FALLEN RUBBLE
Painted Plaster visible
SITE No. 11

Fig. 9.

adhering to it. Its extent is impossible to ascertain, since no vestiges of it survive on the other two sides. The outline of a similar structure, larger but equally fragmentary, underlies the ruins of another *gasr* and an Arab house beside the second Cussabat track, 2 kilometres to the north (Site 12, fig. 9). In an area measuring 50 by 45 metres, and enclosed by a ditch, are traces of concrete partition walls, and a perimeter wall with bastions 2½ metres square, whose foundation of dressed blocks is visible at the northern and eastern corners and half-way along the north-east and south-east sides. On the south-west side within the perimeter are the uprights of an olive press. The ditch may be of this period, but is not necessarily so, since it may skirt the walls merely to avoid the labour of digging through them.

Both this and the previous site are difficult to interpret without excavation, but some light is thrown on them by a similar but better-preserved building, which, though outside the area under discussion, may conveniently be described as a parallel. It stands on a spur on the east side of Wadi Meauia 10 kilometres south-east of Cussabat, between the two tracks from Cussabat to the Tareglat and just above a track from the lower Gsea to the coast through Amamre. The building (Site 15, fig. 9) is 20 metres square, with bastions protruding from its corners on the east and west sides. The north-east bastion is rectangular, 6 by 2½ metres, and the others 2½ to 3 metres square. There is no indication whether they were solid or hollow, but there is no sign of an entrance to any of them. The outer walls are faced with large coursed blocks, now weathered, but a glimpse of their original state is obtained on the north-east bastion, where the building of an Arab house has exposed a fine ashlar face (pl. XXIX*b*). The perimeter wall has an inner face of small coursed blocks set in a concrete core, but the interior partitions were of concrete with an occasional orthostat. A double row of rooms ran along the north side, and in the north-west and south-west corners were two olive presses whose uprights were backed against the blocks of the outer wall. In the south-east corner was a large room with a central roof-pillar. The gateway was in the middle of the south side; its jambs and lintel, now fallen, are ornamented with a moulded frame and, over the middle of the door, a floral emblem encircled by a wreath, with what appears to be a cornucopia on either side (pl. XXIX*c*). The emblem is repeated on either side of the 'symbol of Tanith', which appears in relief on a block, now lying near the olive press in the north-west corner (pl. XXIX*d*), which also bears a single line of lettering in Latin characters; the reading of the inscription and its interpretation are uncertain (Appendix I, p. 114).

The layout of the site, its masonry and ornament alike suggest a date not later than the third century A.D. The block wall with concrete inner face, though rare in the eastern Gebel at this period, is the standard method of construction in the group of farms in the western Gebel around Zintan.[21] Similar work, at Henscir Soffit, near Jefren, was excavated by Bartoccini,[22] who came to the conclusion that the inner face was secondary, but the writer has examined other examples where this is almost certainly not the case. The tiny bastions on all three sites would have given them an official and pseudo-military aspect without having any real defensive value, and call to mind the small bastioned fort of Gasr bu Larkan in Wadi Merdum near Beni Ulid, interpreted by

[21] No full survey of this group has yet been undertaken, but it appears to be a smaller settlement dependent on Sabratha. It may be the *Thenteos* of the Antonine Itinerary (cf. Goodchild, *Roman Roads and Milestones*, p. 21).

[22] Briefly reported in *Africa Italiana* ii, 1928–9, p. 106.

Goodchild as a police post for the control of frontier traffic.[23] It can hardly be a coincidence that the type occurs in each case on or near an important road or track; Baradez[24] identifies somewhat similar roadside sites, with olive presses though without bastions, as *mansiones*, posting stations that also served as centres for the collection of taxes in kind, and the solid and hollow bastions are found on small forts in Gaul, at Larga and Joublains respectively, both of which are identified by Grenier as *mansiones*.[25] The two buildings whose vestiges have been recognised in Wadi Gsea lie roughly halfway between Lepcis and the limit of Roman penetration marked by Aelius Lamia's road, and in one of the most likely areas for early settlement. It is hardly necessary to point out that their nearness to each other is not a serious objection to their identification as *mansiones*, since the tracks they serve are alternative versions of the same route, which may not have been in use simultaneously, and the structures are only contemporary in a very broad sense. But this can be no more than a suggestion, since the presence on one site of an Arab house and on the other of a cemetery make excavation impossible.

(4) *Mausolea.*

We must complete our sketch of the Roman remains of this area with a mention of the mausolea and other monuments, of which rare examples were found. The three mausolea whose sites were identified were all badly damaged, though in two cases some idea of their original form could be obtained. Of the first, in Fergian among the farms of Zituna, there remained in position only a plain foundation course of large blocks 2·80 metres square, and parts of the second course with a simple moulding. To judge from the material scattered among the ruins of a nearby hut, there were four courses of blocks above the moulding course, with an angle pilaster surmounted by a crude Corinthian capital at each corner. Above this was a further course with a projecting flange at the top, giving a total height of some 2 metres; there is no evidence of the method of roofing. On five of the blocks of the topmost course can be discerned traces of an Arabic inscription, now so worn as to be illegible, which would appear to have been placed along one side of the building when its masonry at least was well preserved. The ruins of the second mausoleum lie on a small hill just over 1 kilometre north-west of Ras el-Msid overlooking the Gsea valley. On a foundation course, measuring 3·40 by 3·10 metres, stood a podium, 1·05 metres high. Of the two courses composing it, each of which is recessed 10 centimetres from the face of the course beneath, the lower completely encloses the burial chamber, while the upper is discontinued along the north-east end, leaving a step which gave access to the top of the podium. Its upper edge is ornamented with a moulding, and a narrow flange on the inner face of the blocks supported a floor of unknown material covering the chamber. Above this level only two blocks survive in position, at the south-west end, suggesting that there was a small covered shrine. The type is apparently a miniature edition of a common African model,[26] with a shrine facing an open podium approached by steps. Fragments of a third mausoleum, including a column and capital, lie on a spur on the other side of the valley 2 kilo-

[23] 'Limes Tripolitanus II', in *Journal of Roman Studies* xl, 1950.

[24] *Vue Aérienne de l'Organisation Romaine dans le Sud-Algérien*, Paris, 1949, pp. 202 ff.

[25] Déchelette–Grenier, *Manuel d'Archéologie Gallo-Romaine* i, pp. 452–5.

[26] Cf. Henchir ez-Zaatli in Tunisia, H. Saladin, *op. cit.* (n. 5), p. 129.

metres south of Gasr ez-Zlaseia, but here there is no clue to the original form of the monument.

It is an obvious accident of distribution that there is in the area no individual mausoleum comparable with grandeur with, for instance, those at Gasr Doga on the Tarhuna plateau[27] and Henscir Soffit in the western Gebel.[28] But the absence of such remarkable specimens enables us to see more clearly the comparative rarity of mausolea of any size even in a populous countryside. It is clear that they were an exceptional mode of burial, and probably the usual method was simple inhumation.[29] In fact, several discoveries of undisturbed cists were reported to the writer, though unhappily the sites could not be identified. These were sometimes marked by pointed stele, of which one, recording the tomb of Muthunibal Andrias, was discovered in an Arab cemetery just north of Gasr ez-Zlaseia (Appendix I, p. 115).

IV. THE DECLINE

It remains to consider, by way of epilogue, two further sites, where the disasters that overwhelmed this prosperous economy have left their mark most clearly, the olive farms which represent the first period of occupation being overlaid by buildings of the early barbaric period that followed. The first site lies on the southern tip of the high land separating the northern valley of the Gsea from Wadi Turgut (Site 13, fig. 10).[30] The original olive farm, of which only parts of the north-west and south-west sides survive, was a rectangle, measuring some 70 by 40 metres, with a line of four pressing rooms in the west corner, where the stubs of the uprights are visible backed against the outer wall. In the north corner are traces of the usual partition walls of concrete, and outside the west wall *opus signinum* channels, with tanks faced with the same material and floored with mosaics of a simple geometrical pattern, show that the farm possessed a small bath-house. Twenty metres to the south are the well-head and silt-tank of a rock-cut cistern, placed to catch the drainage from the hill above. On the south-west side of the farm an *opus signinum* tank, a cemented pressing floor, and a pair of uprights with their capstone mark the position of another press. It is curious that the uprights have apparently been re-erected at some time, though not for their original purpose, since examination of the holes and slots shows that one of them is upside down.

The remainder of the farm was destroyed by the cutting of the ditch of a fortified farmhouse of the later period, which overlies its south-eastern side. The extra labour involved in digging through earlier buildings was apparently undertaken to include, within the walls of the later structure, a second cistern, belonging to the original farm. Of the building itself, one corner stands to a height of 4 metres, and parts of one or two courses are visible at other points on the circumference. The outer walls were built of large re-used blocks, of which a double thickness can be seen at one place. Most of the inner, and probably the upper parts of the outer, walls seem to have been of unbonded rubble; the interior plan is not visible, but was probably similar to that of the

[27] To be published by Caputo.

[28] Bartoccini, *Africa Italiana* ii, 1928–9, p. 105.

[29] Catacombs have been found at Medina Doga (Goodchild, 'Tarhuna Plateau', p. 50) and also at Tarhuna, but no cemetery of any sort has yet been located at Gasr ed-Dauun.

[30] This site is the 'Kasr Shenr' of which a plan is given by Myres, *Proc. Soc. Ant.* 2, xvii, 1897–9, p. 285.

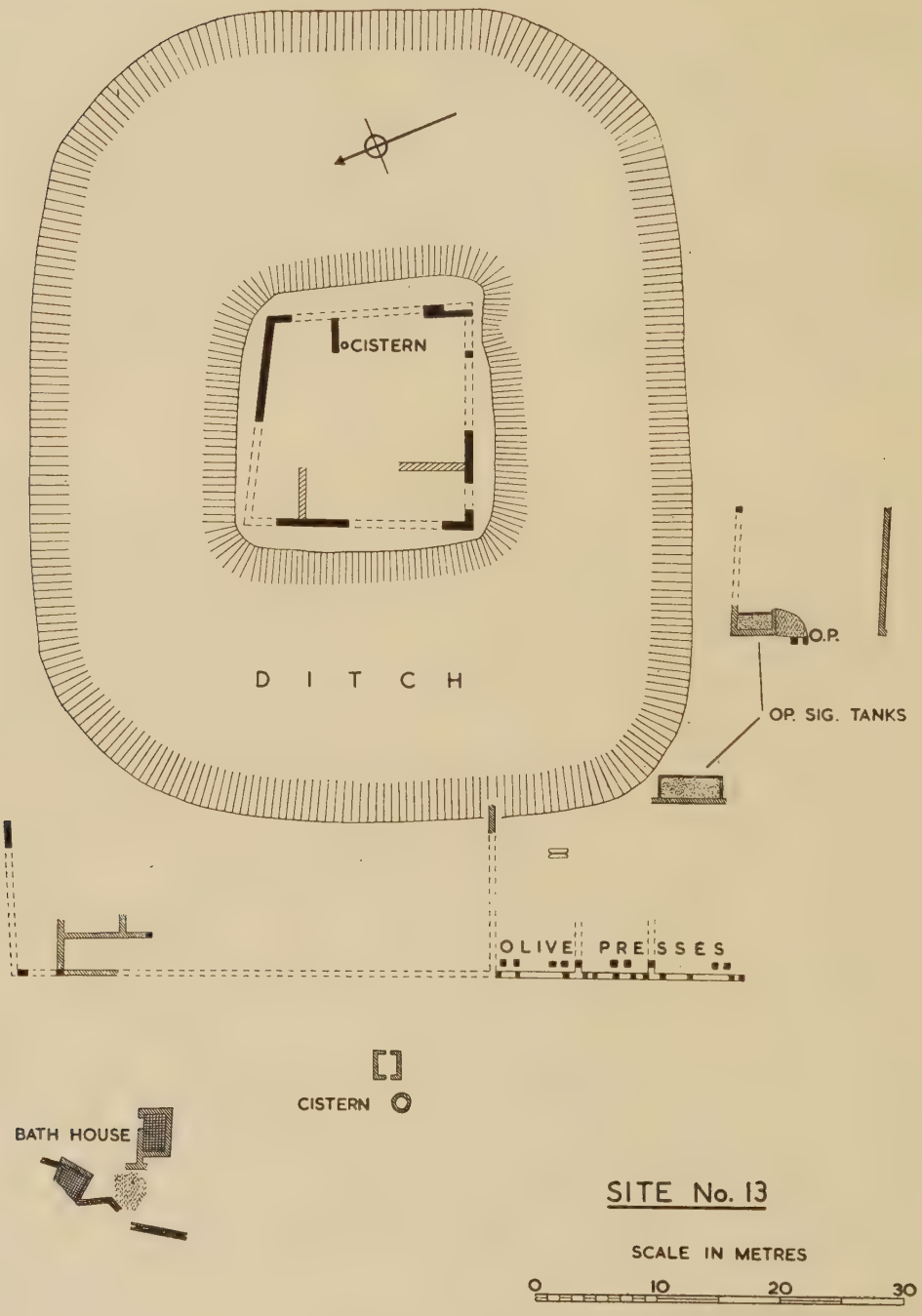

CISTERN
DITCH
O.P.
OP. SIG. TANKS
OLIVE PRESSES
CISTERN
BATH HOUSE
SITE No. 13
SCALE IN METRES
0
10
20
30

FIG. 10.

fortified farm at Henscir Salamat on the Tarhuna plateau.[30a] This is a typical example of the residence of the more prosperous Berber family, and many examples were found throughout the area; it would also have served in time of trouble as a refuge for the poorer peasants, whose huts are sometimes found grouped in villages around these two- or three-storey towers.[31]

Peasants' huts, though small and squalid by comparison with such fortified farms, are as distinctive of the period in the Gebel, and a good isolated example was found among the ruins of an olive farm 4 kilometres to the south of the last site, beside the northern caravan track from Gsar ed-Dauun to Cussabat (Site 14, figs. 11 and 12). The buildings of the farm stood on the north-west and south-west sides of a roughly rectangular courtyard, which was enclosed on the north-east and probably also the south-east sides by a single wall, with an isolated building, cement-floored, in its eastern angle. Exploratory trenches helped to elucidate the sequence of building on the site, though the loss by erosion of nearly all occupation deposits from the farm meant that very little precise chronological evidence could be obtained. The middle of the north-west side was occupied during the early period by a large building, whose layout suggests that it was the farmhouse. Its middle section is divided into three small, approximately rectangular rooms with a doorway, whose sill is still visible at ground level, opening towards the courtyard; on the north-east side is a long room projecting into the couryard, while the corresponding space on the south-west is divided into two smaller rooms. An incomplete line of orthostats on the courtyard side, with no trace of walling between them, was probably what remains of a line of pillars supporting the roof of a portico. All the rooms had cement floors, fragments of which were encountered just below ground level, and a considerable portion of the floor in the south corner survives intact. The house abuts on two long rooms, one containing a press and the other perhaps a store, which occupy the north corner of the farm. The wall junctions show that these rooms were the first building to be erected, but the absence of occupation debris makes it impossible to say whether this represents any real difference of period. Probably it does not, since the walls of the two buildings, where they survive between the orthostats, are similarly constructed of concrete faced with small blocks, carefully coursed.

Adjoining the south-west wing of the house, and extending along the remainder of this side of the courtyard, is a line of rooms opening on to the yard. These were built of concrete faced with cement, were probably store-rooms or workmen's quarters, and may have been a later extension, since the area on which they stood appears earlier to have been a rubbish dump. Large quantities of sherds, mostly of storage jars, were found beneath their original floor-level, including two with Neo-Punic graffiti, which have been submitted to a Semitic expert for study.

The almost complete lack of stratified material of this period makes dating difficult, especially as we have no comparative sequence for the coarse pottery. The bottoms of two irregularly shaped pits inside the pressing room, which were truncated by the excavation of the later semi-subterranean hut and then sealed by its floor, did, however, yield fragments of lamps, one of which was ornamented with the nozzle volutes

[30a] See plan in 'Tarhuna Plateau', p. 62.

[31] The fortified farmhouse is typologically a descendant of the unit of frontier settlement in the third century A.D., described in the two articles on the *Limes Tripolitanus* referred to above, notes 13 and 23. Late examples in the pre-desert area are sometimes surrounded by hut-villages, but the huts themselves have not yet been investigated.

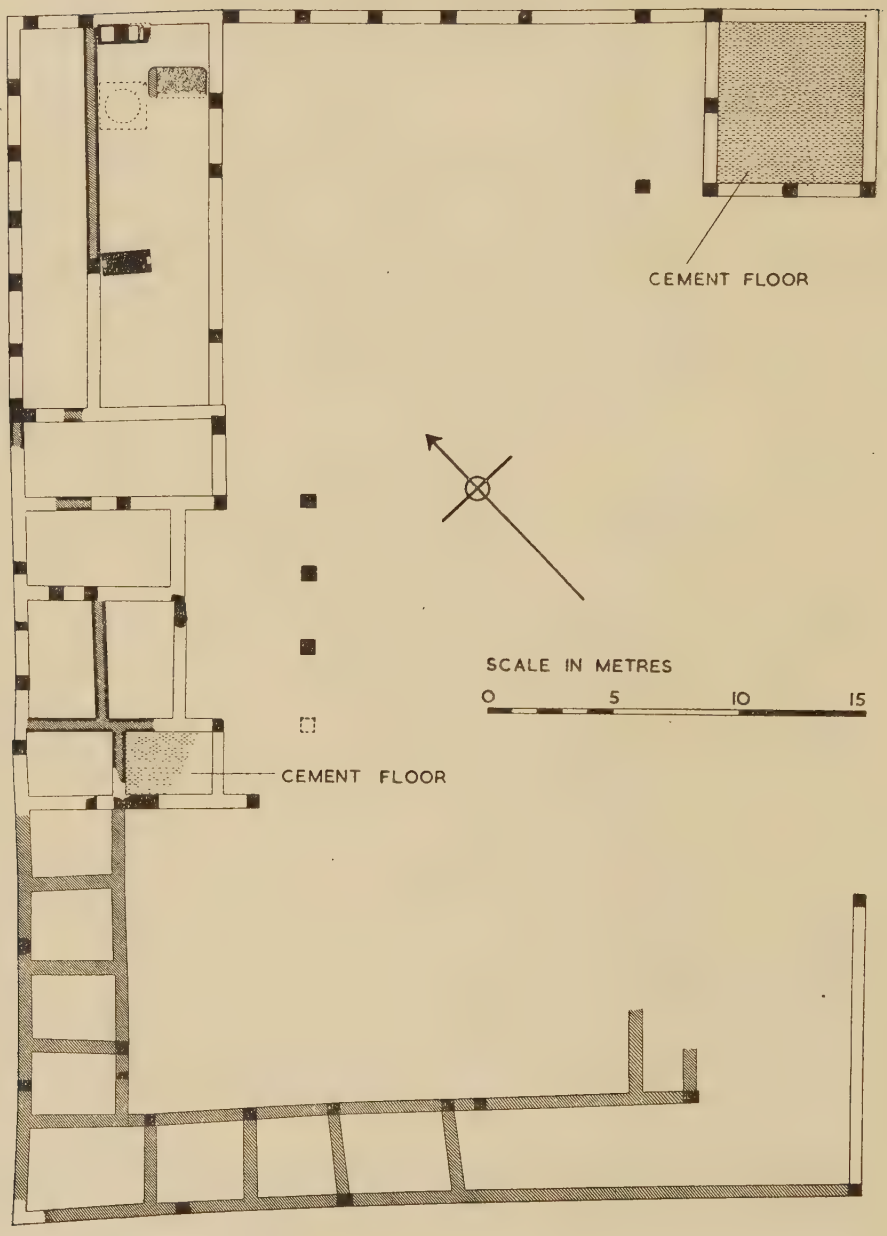


FIG. 11.—SITE 14. THE ORIGINAL FARM BUILDINGS.

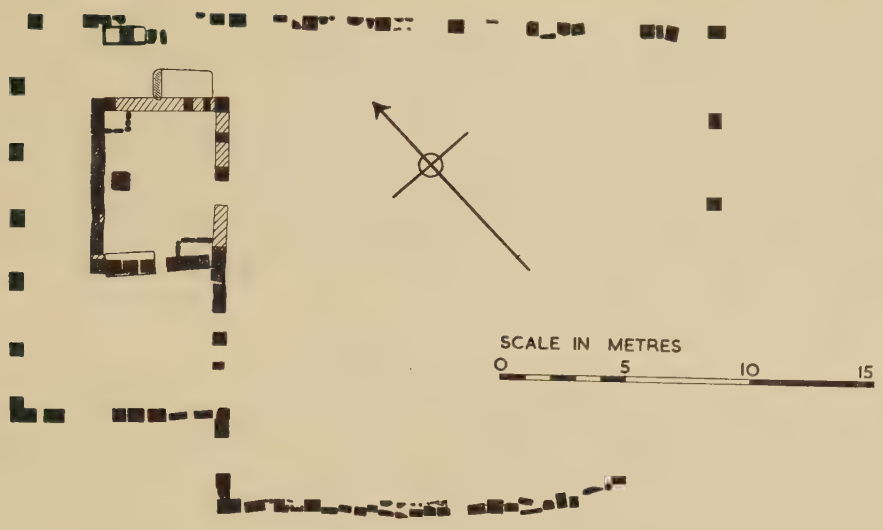


FIG. 12.—SITE 14. HUT WITH COURTYARD, BUILT OVER THE RUINS OF THE NORTH CORNER OF THE ORIGINAL FARM BUILDINGS (COMPARE FIG. 11).

characteristic of the first century A.D. Since these pits originally lay under the press itself and must have pre-dated its erection, they give a rough *terminus post quem* for this building and by inference for the farmhouse. They were, in fact, possibly holes left by the removal of trees or bushes in clearing the site, which were filled in with rubbish to level the floor.

The builders of the later hut which occupied part of the site of the pressing room, evidently excavated the interior to take advantage of the surviving foundations of the earlier walls, on which they then piled blocks robbed from other parts of the farm. The north-east wall of the hut is of unbonded rubble, incorporating parts of the broken pressing slab and overlapping one side of the *opus signinum* tank. The opposite side is founded in part on the weightstone, and one of the press uprights was re-used as a roof-pillar, in the position characteristic of the period, near the back wall opposite the doorway. Outside the door on the south-east was a small enclosure, walled with fragments of earlier masonry. Inside the hut, in its north and south corners, small compartments edged with slabs may have been forage bins. The floor was of beaten earth, in which pits were scooped to serve as hearths in the same way as an Arab today scrapes out a small hole to light his charcoal fire. Sherds of rough pottery, bones, and charcoal made up the occupation material, which accumulated to a depth of up to 30 centimetres.

This hovel suggests a poverty and barbarism in strong contrast to the prosperous aspect of the farm whose place it took. It was evidently the home of a peasant, who in his lack of worldly goods and in his personal habits was little different from the modern Arab of the locality, except that he was sufficiently static to live in a permanent hut

rather than a tent. He had no use for an olive press, and the rough courtyard, which was an integral part of his establishment, probably housed the flocks by which he lived. It must not be implied, however, that the striking transition on this site was a particularly sudden one, or that it reflects accurately the difference in the general levels of culture during the two periods. Although the later occupant was at pains to use such of the early masonry as he could find, it nowhere survives much above the original floor level, suggesting that the destruction of the farm, if it was ever deliberately destroyed, was followed by a period of slow erosion of its ruins. Again, the social status of its owner is probably matched more nearly, not by the peasant, but by the builder of the fortified farmhouse that stands 400 metres to the north-west.

V. CONCLUSIONS

Sites of the general type described above have been found in varying frequency from Tarhuna to the sea and from the Gefara to the pre-desert area. The southern limit of the Gebel olive farms appears to be Wadi Tareglat, but isolated examples occur in the hinterland of Misurata,[32] and others have been reported from the Sirtica,[33] where the lack of building stone caused them to be built entirely of concrete. Mention has already been made of a group, examined by R. M. Bradfield and D. Smith in 1951 and by Mrs. Brogan and the writer in 1952, near Zintan in the Gebel Nefusa; they are of the same general type as the Gasr ed-Dauun group, though they appear to have been constructed even in the first and second centuries with an eye to defence, and indeed the community must have been an isolated one. Sites which, from their description,[34] are probably courtyard farms exist in the hills west of Tarhuna, but they are apparently not common there, and none was found around Garian; the constriction of the fertile hill-country at this point between the Gefara and the pre-desert area probably marks the western boundary of the area economically dependent on Lepcis, whose road '*in mediterraneum*' originally terminated near Tarhuna. Unfortunately the highly developed Italian settlement of the Tarhuna plateau has obliterated many ancient sites and makes it impossible to determine the distribution of open farms in this district, but some have been found in the wadis to the north, and it is probable that they existed here also. Certainly the ditched and fortified farm, which is the only surviving type in this district, represents a much later phase in the adjacent Wadi Gsea. Similarly, in Msellata one can only assume from the suitability of the terrain and its nearness to the coast that the comparatively few examples of the open farm are chance survivals of a much larger number, overlaid by later settlement.

In considering the chronology of the period, we are inevitably hampered by the lack of precise evidence, which can only be provided by the excavation of a number of sites. Although the heavy fine of oil imposed on Lepcis in 46 B.C. implies a considerable production,[35] there is no proof that any of our farms existed before the first century A.D.,[36] although there were probably native cultivators in the interior who sold their

[32] Information from Mr. M. de Lisle.

[33] Goodchild, 'Mapping Roman Libya', *Geographical Journal* cxviii, 2, June 1952, p. 145.

[34] Cowper, *Hill of the Graces*, pp. 276–7.

[35] See Gsell, 'L'huile de Leptis', *Rivista della Tripolitania* i, 1924–5, p. 41.

[36] Six of the twenty coins said to have been found in the area are of Punic or Numidian type, but the virtual absence of Roman first-century types in itself suggests that these remained in circulation for a very long period.

olive crop to merchants from the city. Intensive development of the interior would hardly have been possible without a road capable of carrying wheeled traffic, and it is likely that the first appearance of specialised olive farms in any number was the reason for the construction of Aelius Lamia's highway in A.D. 17. An expansion about this time could be interpreted as a result of the growing prosperity and increase in trade which accompanied the foundation of the Empire; it is important to remember that in addition to its household uses, for which local supplies would normally suffice in Mediterranean countries, oil was in demand for the public baths, whose numbers and splendour were becoming the gauge of a city's greatness. Certainly there is a strong indication, from the presence of *terra sigillata* on the sites, that many of them, even in areas remote from the road were in existence by the end of the second century A.D.

The people who built them have unfortunately left no direct record of their names or origins, but the larger and more complex establishments represent an investment of capital in land and buildings which must have come from the city, together with the surveyors and masons for their construction. On the other hand, the workmen and overseers were probably local men—it is hard to envisage a wealthy citizen of Lepcis living in such a remote spot as Sidi Hamdan. Many of the smaller and less regularly laid-out farms were probably built and owned by prosperous Libyans, who were strongly Punic in language and culture. An inscription from Ras el-Haddagia records, in Neo-Punic, the building of a temple by a wealthy benefactor of undoubtedly Libyan descent,[37] while the inhabitants even of smaller farms spoke and wrote in Neo-Punic. Names on tombstones of the period in the Gebel show a mixture of Libyan, Punic, and Latin derivations, although it must be remembered that a Latin name is more usually indicative of civic status than of Italian origin. The cults appear to be both Libyan and Punic, and indeed it is probable that by this time the two were not clearly distinguished; Goodchild has pointed out that the dedication at Ras el-Haddagia was to Jupiter Ammon of Siwa and not to Baal Ammon of Carthage, but it is permissible to doubt whether the worshippers were entirely clear on this point. The temple recently discovered near the Zintan olive farms has produced a dedication to Hercules-Melqart,[38] and the symbol of Tanith on the inscription from Wadi Meauia shows Punic influence. Burials were sometimes in mausolea of Punic or Roman type, incorporating a small shrine, and sometimes marked by stelae; one of these at the village of Medina Doga was accompanied by a stone with cups to receive offerings to the spirit of the dead.[39] A similar stone was found in the Fezzan, the country of the Garamantes,[40] and this veneration for the dead ancestor seems to have been a strong Libyan trait, since Herodotus records that the Libyans swore oaths with their hands on the tombs of their just and good men.[41] The *marabout* is the commonest object of devotion in North Africa to this day, and some of the tombs now included in this category prove on examination to be of Roman origin.[42]

The agriculture of this period was of two types, the dry farming of olives for which the Gebel hillsides were particularly suited, and terraced wadi gardens behind concrete dams which retained the soil and at least a proportion of the winter rains. The latter

[37] 'Tarhuna Plateau', pp. 56 and 67; *IRT*, Neo-Punic 6.
[38] See the article by Mrs. Brogan and the writer in this volume, pp. 74–80.
[39] 'Tarhuna Plateau', p. 50.
[40] Illustrated by Caputo in 'Scavi Sahariani', *Monumenti Antichi della Accademia Nazionale dei Lincei*, xli, 1951, fig. 177, p. 411.
[41] IV, 172.
[42] E.g. the mausoleum at el-Khadra ('Tarhuna Plateau', pp. 44, n. 6 and 63, n. 36).

must have had a very small capacity, and probably produced fruit for the local market, while the main wealth of the farms was derived from their exportable oil. Whether vines were extensively cultivated we do not know; they may then, as now, have been planted between the olive trees, but any wine produced was probably for home consumption, since African wine had a poor reputation abroad. No doubt each farm grew cereals for its own needs, but the main corn land of Tripolitania seems to have been south of the Gebel, and perhaps on the Gefara, rather than in the hills.[43] Animals were kept, but probably in the main for farm work and draught purposes, since their drinking-troughs are found in large numbers only on farms like Sidi Hamdan, specialised oil factories that show no sign of mixed farming, but are so far from the road that they must have needed large pack trains. It cannot be too strongly emphasised that generalisations on the economy of Roman Africa are not necessarily applicable to the interior of Tripolitania, since the evidence on which they are based is largely derived from parts of Algeria and Tunisia and a few coastal sites such as Dar Buk Ammer near Zliten, where inscriptions and mosaics in themselves reflect very different conditions. There is no evidence in the Gebel for the existence of large estates, imperial or private, such as covered much of the province of Africa, nor of the complexities of land tenure that they produced.[44] In the area of Lepcis the workman was probably much closer to his master, since even though the latter might not reside on his land, he was probably a wealthy citizen rather than an Italian capitalist, and the great families of Lepcis even at the end of the second century were still very strongly Punic.

The greatest development of this economy is probably reflected by the reorganisation of the southern frontier under Septimius Severus and his successors, coupled with the marking of an extensive road system in the interior about the same time. The great problem in the interpretation of the evidence at present available is the date and cause of the catastrophe whose effects we have remarked on two of the sites, and which apparently overwhelmed a great many more, particularly in the northern half of our area. The decline of city life all over the western empire during the late third and fourth centuries would have brought a falling off in the demand for luxuries such as oil and in the organised trade that dealt with them. This would have reacted more severely on larger and more specialised establishments than on the smaller farms, which could adapt themselves more readily to an economy based on local markets, and it may be that Sidi Hamdan and similar sites in the south were in their decline before the end of the period. At all events this land does not seem to have been sufficiently prosperous to attract many settlers during later times, and the disappearance of its olive trees would quickly have destroyed the balance of the rainfall cycle, laid the land open to erosion, and tended to merge it in the pre-desert country on whose fringe it lay.

A plausible date for the beginning of the break is provided by the invasion of the Austuriani in 364–6,[45] which must have destroyed at least temporarily both communications and trade, not to speak of the internal security on which olive-farming, essentially a long-term investment, depended. The new society must, however, have taken some

[43] The fertility of the cornland in 'the plain of Sofeggin' was proverbial in antiquity (el-Bekri, *Description de l'Afrique Septentrionale*, tr. de Slane, Paris, 1913, p. 25).

[44] The only evidence for imperial estates in Tripolitania connects them with Sabratha and Oea rather than Lepcis, suggesting that they may have been situated in the Gefara. See Reynolds and Ward Perkins, *Inscriptions of Roman Tripolitania*, pp. 9 and 10.

[45] Ammianus Marcellinus XXVIII, 6.

time to establish itself, since many of the farms were almost completely destroyed before their sites were reoccupied. On the other hand, there is evidence of stable Christian communities[46] in this area before the Byzantine reconquest, and Procopius implies the existence at this time of a Berber society, such as we have envisaged, in his references to the Leuathae,[47] a tribal group which appears to have occupied much of Tripolitania and Tunisia, and whose name is preserved in the small village of Louata, near Cussabat. This leaves a period of about a century for the transition, presumably brought about by a series of onslaughts of which the Austurian invasion was merely the first. It is interesting to read in this connection Ibn Abd al-Hakam, the earliest Arab historian of the territory, quoting in the ninth century what was presumably the Berber tradition of the events of this period. He begins with the mythical account of the Canaanite origin of the Berbers, and their arrival in Cyrenaica, and then continues:[48]

> 'The Louata later split up and spread over this part of the Maghreb (i.e. Tripolitania and Tunisia) until they reached Sousse . . . The Hawarra established themselves at Lebda and the Nefusa in the territory of Sabrata. The *Rum* who were occupying these lands were forced to leave, but the *Afariq* who were subject to the *Rum*, remained, paying a tribute which they were accustomed to render to all those who occupy their country.'

It is difficult not to identify the *Afariq* of this passage with the labourers and menials, the *afri* of classical writers,[49] and the *Rum*—the modern Arabic word for any European—with the Romano-Punic owners of the farms whose destruction we have recorded.

Thus we have the outline of a period of some three and a half centuries during which the eastern Gebel was the scene of the most prosperous agricultural settlement the territory has ever seen. Unfortunately the results of a superficial survey do not permit more than a partial answer to many of the questions raised. Notably, the prehistoric period and its relation to the beginning of the society we have described remain a mystery, and we know very little about the detailed chronology of the Roman period. These vital points will only be elucidated by excavation, to which such geographical studies as this are merely a necessary prelude.

DAVID OATES

APPENDIX I—LATIN INSCRIPTIONS

1. Mile-station in Udei el-Me, 2½ kilometres west of Gasr ed-Dauun, and 20 metres south of the modern road. Map reference on the Tarhuna sheet of the 1:100,000 series (Libyan grid) M 132 187.

Three milestones were found here by the writer in 1949, so close together that although no bases were visible they must have been *in situ*. One, uninscribed, was left, and the other two were removed to Lepcis Museum.

[46] See Ward Perkins and Goodchild, 'The Christian Antiquities of Tripolitania', forthcoming in *Archaeologia* xcv.

[47] *Bell. vand.* IV, 21.

[48] *Conquête de l'Afrique du Nord*, ed. and tr. A. Gateau, Algiers, 1948, pp. 35–7.

[49] The *Afri* provided large contingents of infantry to Carthage and are clearly distinguished by Livy from the *Mauri* and *Numidae*, who lived outside her immediate territory. Cf. XXI 22.2, XXIII 9.4, XXX 33.5, etc.

The earlier of the two inscribed stones is a weathered limestone column, 1·50 m. high and 50 cm. in diameter, with a rebated base. The text, of Maximinus, corresponds with that found at Mile I on the coast road (J. M. Reynolds and J. B. Ward Perkins, *Inscriptions of Roman Tripolitania*, 924) and in a fragmentary state at Miles VII and VIII on the Eastern Gebel road. Some variation was introduced into the last four lines, which clearly do not follow the standard formula ('sua infaticabili providentia pervium commeantibus reddiderunt'), but the writer has been unable to find a satisfactory reading. The use of B for V in line 2 is a common Libyan error. Letters 4 cm. high.

IMP C IVLIVS
BERUS MAXIMINVS
PIVS FELIX avg GERMani
CVS MAXIMUS SARMATI
CVS MAXIMvS DACICUS
MAXIMVS TRIB POTESTATIS . . .
IMP ET C IVLivS VERVS MAXI
MVS NoBILisSimvs CAES PRINCEps
IVVENtVTIs GERMANICVS MAXi
mVS sarmaticvs mAX
DACiCVs Max PONTES VETVSTA
TE DILapsos iter lo(n)GA INIVRIa
CORRvptvm restitVERVNT et pro
SVA . . . . . providENTia
DV . . . . . perVIVM
COMEANTIBVS REDIDERVNT
XXX

The second stone has a text of Gordian III (A.D. 238–244), of which only the last three lines of the imperial titles and the mileage figure were incised; the surviving letters of the first four lines are faintly visible as red paint marks. This may indicate that the cutting was never completed, perhaps owing to the death of the emperor. It is a limestone column 1·55 m. high and 50 cm. in diameter, in two pieces. Letters 10 cm.

IMP CAESar antoni
NVS GoRDianvs pivs
FELIX avg ponti
FEX Maximvs
TRIBVNICIAE POTe
SATIS BIS PATEr *sic*
PATRIE COS . . .
MIL P
XXx

2. Dressed limestone block 90 cm. wide, 45 high and 52 thick, found inside the bastioned building in Wadi Meauia (see p. 102 and pl. XXIX*d*). On the front face is a *tabella ansata*, 55 by 30 cm., with the 'symbol of Tanith' in low relief in the middle.

flanked by two six-petalled floral motifs. Along the top of the panel runs a line of lettering 6 cm. high, probably of the third century or earlier:

NVM.NIM.FIL.PROCVLI IMIBAL

The reading is difficult, and the interpretation highly uncertain, but NVM. may be an abbreviation of NVMINI, and several instances of a local name Nimira or Nimmire are known (*Inscriptions of Roman Tripolitania*, 886, 898, 899, and Neo-Punic 6): we have an obvious combination of Latin and Punic names, Proculus and Imibal, at the end. The so-called 'symbol of Tanith' is frequently found on Punic funeral stelae, though its precise significance is a subject of controversy, and the floral emblem is also found in a similar context.

3. The tombstone of Muthunibal Andrias lies in an Arab cemetery just over a kilometre north of Gasr ez-Zlaseia. It is a stele of local stone, originally pointed, measuring 1·70 m. in height, 50 cm. in width, and 48 in thickness. Its foot is rebated to a depth of 5 cm. to fit into a slotted base, now lost. Letters 4·5 cm. high.

MVTHVNIB
ALANDRIAS
VIX.AN.LXXIIX
HIC.S.EST
C.IVLIVS PRO
BVS MATRI
S. P. F.

It is interesting that the mother of C. Julius Probus, who bears a good Latin name, should have been called Muthunibal, which is plainly Punic (cf. *Inscriptions of Roman Tripolitania*, 754 (xviii), 294, 162, and Neo-Punic 19). Our inscription is probably to be assigned to the third or early fourth century. Owing to its position, face downwards, and to its size, it could neither be photographed nor removed.

APPENDIX II—CATALOGUE OF SITES

Map references are to the Tarhuna sheet of the 100,000 series (wartime edition with Libyan grid). The detailed map (fig. 2) covers the area 20 km. north and 15 km. east of the point M 100 100. The majority of the sites are nameless.

1. Sites described in the text.

(a) Village, Olive Farms, and 'Mansiones'

No.	*Map Reference*		*Olive Presses*
1	M 156 188	Gasr ed-Dauun	None
2	M 122 192		3
3	M 124 191		1
4	M 122 187		1
5	M 117 184		1
6	M 114 180		1–2
7	M 124 180		1
8	M 134 108		1

(*a*) *Village, Olive Farms, and 'Mansions'*

No.	*Map Reference*		*Olive Presses*
9	M 230 118	Henscir Sidi Hamdan	9
10	M 190 181		4
11	M 201 224		?
12	M 197 250		1
13	M 158 253		4–5
14	M 172 216		1
15	M 363 228	Wadi Meauia (Cussabat sheet)	2

(*b*) *Mausolea*

16	M 137 127	Zituna	
17	M 199 248	Ras el-Msid	
18	M 155 262		

2. Other olive farms, not individually described.

(*a*) *Eastern Tarbuna and Fergian*

No.	*Map Reference*		*Olive Presses*
19	M 104 222		2
20	M 112 218		1
21	M 109 215		2
22	M 117 210		1
23	M 132 207		3–4
24	M 133 205		1
25	M 122 176		1
26	M 110 177		2
27	M 114 172		1
28	M 114 159		1
29	M 115 158		2
30	M 120 156		2
31	M 119 132		1
32	M 128 134	Block found with Neo-Punic letters	1
33	M 127 130		1
34	M 132 130		1
35	M 130 123		1
36	M 134 119		2
37	M 150 106		1
38	M 172 103	Senam el-Chadem	4
39	M 147 120		3
40	M 171 143		3
41	M 194 140		2
42	M 232 136		2
43	M 158 166	Senam el-Nejm	3
44	M 131 169		2
45	M 134 154		1
46	M 135 152		1
47	M 164 159		1
48	M 164 158		1
49	M 150 157		1

(*b*) *Wadi Gsea*

50	M 161 199		1
51	M 166 199		1
52	M 176 201	Senam bu Mateereh	1–2

(b) Wadi Gsea

No.	*Map Reference*		*Olive Presses*
53	M 177 215	Senam el-Gharabah	1
54	M 122 222		2
55	M 177 238		1
56	M 154 278	Gasr ez-Zlaseia	3
57	M 173 285		4
58	M 207 222		?
59	M 208 220	Henscir el-Mohammed	6–8
60	M 235 195		2
61	M 229 176		?1
62	M 210 184		3

(c) Wadi Turgut

63	M 141 268		2
64	M 142 263		1
65	M 144 260		2
66	M 126 257	Bir Damra	3
67	M 111 232		4

(d) Wadi Uaeni

68	M 211 247		1
69	M 227 251		2
70	M 236 244		?

LATE HADRIANIC ARCHITECTURAL ORNAMENT IN ROME

(Plates XXX–XXXVII)

THIS article forms part of a larger study of Roman architectural ornament undertaken during two years of residence in the British School. The subject was first suggested to me by the Director, to whom I am grateful both for his constant encouragement of my work and for a great deal of practical advice and help in the preparation of this article for press. My friend, Dr. Enrico Paribeni, has been an unfailingly generous source of information, and I wish to thank him especially for drawing my attention to the fragments in the Via del Banco di Santo Spirito and for identifying some fragments from the Hadrianeum. Mrs. Sheila Rizzello has shown great patience and skill in the preparation of the drawings and tracings; and the text could not have been completed without the help of Miss Shirley Twallin.

For permission to take and reproduce photographs of fragments in Roman collections I have to thank the Direction of the Vatican Museums and Professor A. M. Colini. I should also like to acknowledge help in various ways from Mr. M. H. Ballance, Professor A. Bartoli, Dr. G. F. Carettoni, Dr. F. Castagnoli, Professor K. Lehmann, Dr. C. Pietrangeli, Dr. Hermine Speier, and Professor J. M. C. Toynbee.

For ease of reference, the following articles are cited throughout in abbreviated form:

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The Architectural Ornament of the Early Second Century

It seems that in the early years of his reign [1] Hadrian undertook an extensive programme of reconstruction in the Southern Campus Martius (S.H.A., *vit. Hadr.* XIX, 10, 'Romae instauravit Pantheum, Saepta, Basilicam Neptuni . . . Lavacrum Agrippae'). These buildings all belong to that area of the Campus Martius which was chosen by Agrippa for his main building activities and, as recent topographical research has established, they formed a close monumental group. Of this group, the Pantheon survives to us essentially in its Hadrianic form, and the identification of the apsidal hall immediately south of the Pantheon with the Basilica of Neptune seems topographically the most reasonable.[2] The circular hall cut by the Via dell'Arco della Ciambella formed part of the Baths of Agrippa [3] and seems to be mainly Hadrianic; and recently Gatti [4] has argued that the long wall with niches on the east side of the Pantheon belonged to the Porticus Argonautarum, which formed one of the long sides of the Saepta Julia.

From both the Pantheon and the Basilica of Neptune a considerable amount of architectural ornament still survives; [5] no fragments have been identified with certainty as deriving from the Baths of Agrippa.[6] Although there are no extant pieces from the Saepta Julia, discoveries in 1873 between Santa Maria Sopra Minerva and Via Piè di Marmo included some cornice fragments, which probably belonged to the 'Giano accanto alla Minerva', and this structure is better considered as part of the Saepta than of the neighbouring Iseum and Serapeum. The brickwork of the building was Hadrianic, and the fragments were in pure Hadrianic style.[7] Hadrian's building programme in this area seems to have included the creation or reconstruction of a piazza with surrounding portico in front of the Pantheon; [8] Lanciani speaks of discoveries in this area in 1871 and 1881, which included fragments of entablature, but, unfortunately, he does not describe them. Since, however, he thought that the entablature drawn by Baldassarre Peruzzi [9] derived from this portico, presumably the 'bellissimo pezzo di cornicione' found in 1881 was of similar type; and Peruzzi's entablature, although drawn without ornament, is almost certainly Hadrianic.

[1] According to Bloch (p. 117), the reconstruction of the Pantheon was begun in the second half of A.D. 118 or in 119 and completed 'entro pochi anni'; the buildings south of the Pantheon must be of about the same date (*ibid.*, p. 115); the 'Giano accanto alla Minerva' is dated by Bloch (p. 103, n. 91) to a few years later than the Pantheon (see also Lanciani, *Not. Scavi*, 1881, pp. 279–80).

[2] G. Gatti, 'Il Portico degli Argonauti e la Basilica di Nettuno', *Comunicazioni presentate al III Convegno Nazionale di Storia dell'Architettura*, Rome, 1940, pp. 61–73.

[3] On the Baths, see especially Ch. Hülsen, *Die Thermen des Agrippa*, Rome, 1910; their form and extent is very uncertain.

[4] *Art. cit.*; also in *L'Urbe*, ii, 1937, n. 9, pp. 8–23.

[5] So far as can be judged without detailed investigation, the ancient ornament of the Pantheon is uniformly Hadrianic. It has been argued, principally to justify the rather extravagant terms of the inscription on the architrave of the portico (*CIL* VI 896, 'Pantheum vetustate corruptum cum omni cultu restituerunt'), that the decoration between the first and second cornices of the interior, taken down in 1747 (a small portion of it was reconstructed in 1930), was the work of Septimius Severus and Caracalla (so Lanciani, *Ruins and Excavations of Ancient Rome*, London, 1897, p. 483; Hülsen, *Röm. Mitt.* vii, 1893, p. 317; and more recently Guey, *Mélanges* liii, 1936, p. 240, no. 6). The statement is based on a study by Dell (in Lutzow, *Zeitschrift für bildende Kunst*, 1893, pp. 273–8), but there is no evidence for an earlier (Hadrianic) decorative scheme such as that proposed by Dell, and to judge from the drawings (e.g., Desgodetz, *Les Edifices Antiques de Rome*, Paris, 1779, p. 21 and pl. XVIII) the small 'windows' had mouldings of Hadrianic form. The pilaster capitals moved from this part of the building, of which a number still exist, are certainly of Hadrianic date. Severus and Caracalla may have restored the marble veneers. For the decoration of the Basilica of Neptune see especially Toebelmann, pp. 67–72, pl. XI.

[6] For discoveries in the area, see R. Lanciani, *Not. Scavi*, 1882, pp. 347 ff.

[7] G. Gatti, 'Topografia dell'Iseo Campense', *Rend. Pont. Accad.* xx, 1943–44, pp. 117–63. A drawing of one of the cornice fragments is given in fig. 15 (p. 145).

[8] Lanciani, *Not. Scavi*, 1881, p. 269, and 1882, pp. 346–7.

[9] Uffizi Arch. 541 verso (Bartoli, ii, pl. CXXXVII, fig. 225).

Apart from the group of buildings in the Campus Martius, the temple of Divus Traianus, to judge from the few fragments discovered,[10] was decorated in this same style; the Capitolium at Ostia [11] has profiles and ornament (pl. XXX, *e*) differing very slightly from those of the Basilica of Neptune; and at Hadrian's Villa, in the hall in the form of a Greek cross on the south-east side of the Piazza d'Oro, a large group of entablature fragments has ovolos and cymatia of the same distinctive form. A fine set of small mouldings of this period and style occurs on the altar from Ostia that is now in the Terme Museum; it is dated to the year 124.[12]

The very distinctive style of architectural ornament common to this group of earlier Hadrianic monuments has its origin in the Forum of Trajan, and the continuity of tradition in the major public buildings during the later years of Trajan's and the early years of Hadrian's reign is reasonably explained by the fact that Trajan's architect, Apollodorus, continued to act as general overseer of public works under Hadrian. The origins of the style are to be found entirely in Rome; it represents a reaction against the florid decoration of Flavian public building and takes its inspiration mainly from the developed Augustan ornament of the Forum of Augustus.[13]

I do not propose to enter here into a detailed discussion of the ornamental forms employed in this style, which we may call, for convenience, the 'Augustan revival'. Its main features only are important for this study. The elaborate anthemia in acanthus foliage common on Flavian architraves are abandoned in favour of the more severe type B cymation,[14] and the use of various forms of the type C cymation to divide the first and second fasciae gives place to the bead-and-reel. On the cornices the complicated designs for sima ornament are no longer used; simas are almost invariably plain. A type C cymation, based upon, but easily distinguishable from, the Augustan form, divides the sima from the plain corona, and the egg-and-tongue form replaces the egg-and-dart in general use.[15] The recessed bar connecting the dentils is another Augustan feature that is copied in the decoration of Trajan's Forum (this feature is a characteristic of the later Augustan period, and is found in the Forum of Augustus, in the Temple of Castor, and somewhat later, probably in A.D. 22, in the upper interior order of the Basilica

[10] See especially Lanciani, *Bull. Ist.*, 1869, p. 237. The largest fragment of the main entablature is now in the garden of Villa Albani (see Richter and Grifi, *Restauro del Foro Traiano*, Rome, 1839, pl. IV*a*).

[11] The Capitolium at Ostia is another early Hadrianic building (Bloch, p. 346; see also L. Paschetto, 'Ostia', *Diss. Pont. Accad.* x, 2, 1912, pp. 357–65).

[12] R. Paribeni, *Le Terme di Diocleziano*, 1928, p. 262, no. 802 (324), fig., p. 263, and E. Strong, *La Scultura Romana*, pp. 215–17.

[13] The architect of Trajan's Forum seems to have studied especially the lower order of the flanking colonnades in the Forum of Augustus whence are taken most of the details given in fig. 1; see also pl. XXX. Most of the work on the Forum of Trajan was completed by A.D. 113, the date on the base of the Columna Traiana. Other buildings of the period carry on the elaborate Flavian style, as, for example, the Temple of Venus Genetrix in the Forum of Caesar, dedicated after reconstruction in A.D. 113 (for the decoration see von Blanckenhagen, pp. 77–9, Pallottino, *Atti del 4 Congresso Nazionale di Studi Romani* ii, pp. 77–83, Toynbee and Ward Perkins, *PBSR* xviii, 1950, p. 13). The Baths of Trajan, probably the work of Apollodorus (*cf.* Dio LXIX 4. 1) were built in the years immediately after A.D. 104 (Bloch, pp. 36–49) and dedicated in 109 (Fasti Ostienses, *Not. Scavi*, 1932, p. 194). To judge from the few surviving pieces, the style of ornament was mainly Flavian; the egg-and-dart form was used, the dentils had arch-and-rings in the metopes, the cyma reversa (type B) had a tulip form similar to that adopted in the Forum of Trajan, but the palmettes and lotus pendants are not found in the plainer ornament of the Forum entablatures.

[14] For the classification of the four principal types of formal cyma reversa ornament see fig. 1; types A, B, and C correspond to the three types illustrated by Weickert (*Das Lesbische Kymation*, Leipzig, 1913, fig. p. 101); type D, the only other formal cyma reversa ornament, is especially common in the Flavian period, but is found earlier.

[15] In describing the ovolo decoration, I use the terms advocated by D. S. Robertson (*Greek and Roman Architecture*, App. III, p. 383); the words 'egg-and-dart' applying to the form with arrow-head pendant. One or two examples of the egg-and-dart survive from the Forum of Trajan, but only on small mouldings.

Aemilia). The arch-and-rings motif characteristic of Flavian dentils is never found. (For a comparison of ornamental forms in the Forums of Augustus and Trajan, see fig. 1 and pl. XXX, *a–d.*)

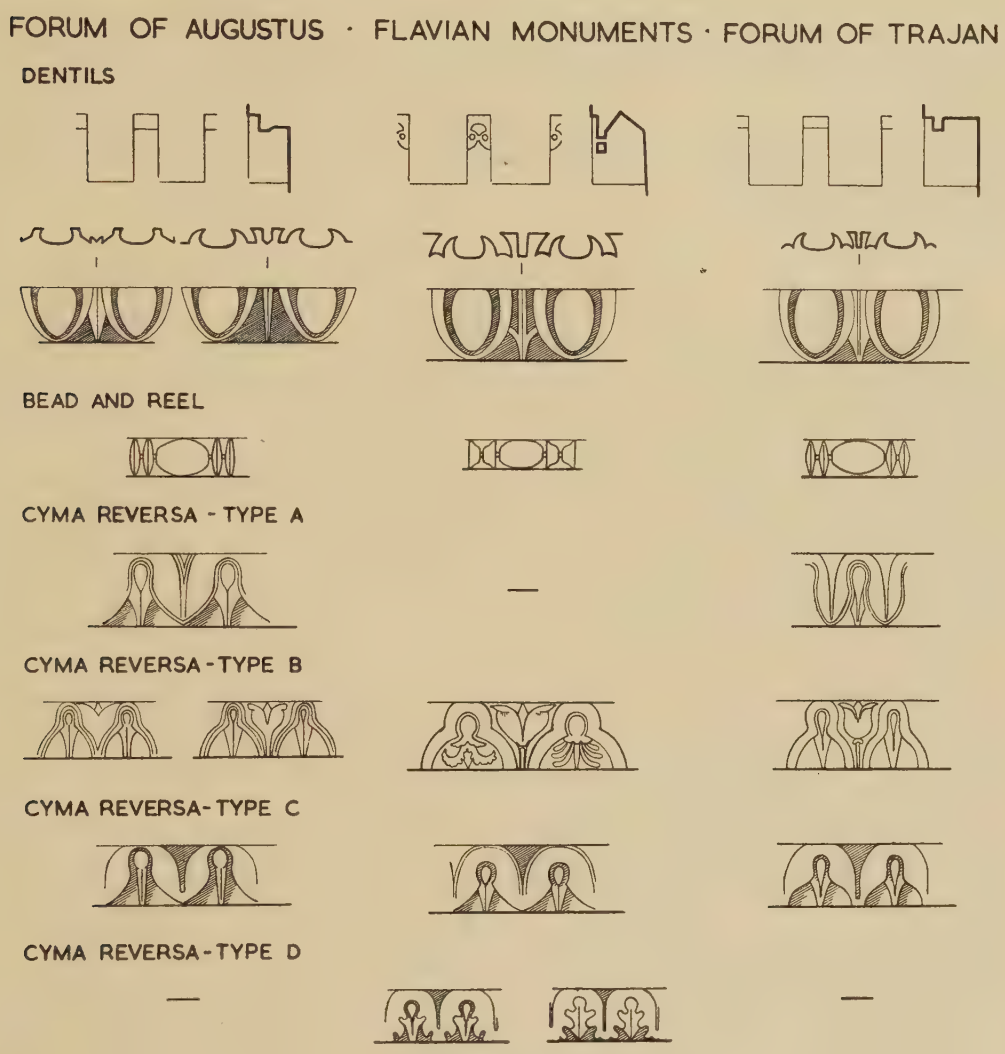
FORUM OF AUGUSTUS · FLAVIAN MONUMENTS · FORUM OF TRAJAN
DENTILS
BEAD AND REEL
CYMA REVERSA - TYPE A
CYMA REVERSA - TYPE B
CYMA REVERSA - TYPE C
CYMA REVERSA - TYPE D

Fig. 1.

There are many other details of Augustan decoration imitated in this, the first and only really inspired, copyist period in Roman architectural history. The return to the severity of Augustan design, together with the new forms of individual decorative motifs, always superbly carved, produced what is possibly the finest architectural ornament that we have from Roman buildings of the Empire. It offers a striking contrast to the slavish copying of Flavian motifs in the 'renaissance' that took place under the

Severans,[16] or such poorly carved imitations in later periods as, for example, a fragment in the Natatio of the Baths of Diocletian, which displays a set of mouldings imitated from Trajanic–Hadrianic models.

The style of the Augustan revival continues certainly into the reign of Antoninus Pius in public building. The main entablature of the Temple of Antoninus and Faustina owes to it such features as the distinctive type of egg-and-tongue and the frieze design recalling a frieze from the Basilica Ulpia in the Forum of Trajan; the interior decoration, now entirely lost but known to us from a drawing by Fra Giocondo, was purely in this style.[17] Other related Antonine pieces are the very large cornice fragment in the Antiquario Comunale[18] (pl. XXX, *f*), and a cornice in the garden of the Palazzo dei Conservatori (Antiquarium).[19]

The Later Hadrianic Monuments

This Augustan revival is one aspect of architectural decoration in the reigns of Hadrian and Antoninus Pius; but there are a number of buildings erected in Rome during this same period, the ornamentation of which presents a totally different style. These buildings, which form the subject of this paper, are the Temple of Venus and Rome, the Temple of Divus Hadrianus, and the Mausoleum of Hadrian.

Whereas the buildings so far discussed, in which the 'Augustan Revival' style predominates, seem to have been erected in the early and middle years of Hadrian's reign, these three monuments belong, at least in so far as their decorative parts are concerned, to the Emperor's later years and to the early years of his successor. The Temple of Venus and Rome may have been planned (and begun) as early as A.D. 121,[20] but the dedication did not take place before 136 or 137;[21] and it is likely that Antoninus Pius, on whose coins the temple is represented, completed some of the work.[22] The Mausoleum was not entirely finished at the time of Hadrian's death in 138;[23] the probability is that it was planned and even begun, as was the Mausoleum of Augustus, in the Emperor's early years; but the square base was still in process of construction in the last ten years of

[16] von Blanckenhagen, esp. pp. 90–9. For Severan work in other styles, see below (esp. Appendix II, p. 149).

[17] Uffizi Arch., 202 verso (Bartoli, pl. LVI, fig. 84); note the plain sima and corona, the distinctive type of egg-and-tongue, the dentils with recessed bar, and the B cymation.

[18] A second fragment of this cornice lies near the Church of S. Teodoro, a third in the cortile of Palazzo Lante, and a fourth in the Lateran Museum (Sala II).

[19] Found in 1933 near St. Maria in via Lata and published by Colini, *Rend. Pont. Accad.* xi, 1935, p. 50, figs. 11 and 12. Colini sees 'un confronto stringentissimo in quella del cosidetto laconico delle Terme di Agrippa (i.e. the Basilica of Neptune) che è universalmente giudicata di età adrianea'. But he judges it to be earlier than the Basilica of Neptune, whereas in fact the C and B type cymatia are certainly later forms.

[20] If Athenaeus is right in making the reorganisation of the festival of the Parilia, which is commemorated on coins of A.D. 121 (Strack, ii, p. 102, pl. I, 56; *B.M. Cat. Hadrian*, pl. 53, 5), contemporary with the inauguration of the Temple of Venus and Rome (Athenaeus VIII, 361 f.: ἔτυχεν δὲ οὖσα ἑορτὴ τὰ Παρίλια μὲν πάλαι καλουμένη, νῦν δὲ Ῥωμαῖα τῇ τῆς πόλεως Τύχῃ ναοῦ καθιδρυμένου ὑπὸ τοῦ πάντα ἀρίστου καὶ μουσικωτάτου βασιλέως Ἀδριανοῦ. See also Strack, pp. 103, 104. Dio LXIX 4 also suggests an early date for the preparation of the plans; but this is a thoroughly untrustworthy passage.

[21] So Strack, pp. 174–7. The only other definite date we have is given by Cassiodorus (Mommsen, *Chron. Min.* ii, p. 142), who under A.D. 135 has 'templum Romae et Veneris sub Hadriano in urbe factum', by which is meant presumably 'completed and dedicated'. The alternative date of Eusebius, A.D. 131 (ed. Helm, p. 200 *d*), must be rejected, since Hadrian was absent from Rome in this year (Nibby, ii, p. 724) The brick-stamps recently studied by Bloch, pp. 250–3, give very little help in the solution of the chronological problem. The majority of stamps from the podium (the only Hadrianic portion of the fabric; the cella walls belong to the reconstruction by Maxentius) are of 123, while a stamp of 134 comes from a part of the podium that was most probably added very late in the building. It is probable that little was done until after Hadrian's return from the East in 126.

[22] Strack, ii, p. 176, *B.M. Cat. Antoninus Pius*, pl. 30, 1–3; the coins date from 140–3.

[23] Hadrian was buried first at Puteoli (S.H.A., *vit. Hadr.* 25. 7) and later (in 139) transferred to the Mausoleum (S.H.A. *vit. Pii* 5. 1 and *CIL* VI 984).

the reign,[24] and the decorative parts probably belong to the very end of it. The Hadrianeum was built in the years immediately following Hadrian's death. It was almost certainly dedicated in A.D. 145,[25] and it must have been begun in A.D. 139 or 140.

All three buildings are well-known monuments of classical antiquity in Rome. The Temple of Venus and Rome [26] was laid out as an archaeological park in 1934–35; considerable portions of its double cella still stand, the podium has been cleared, and the positions of the peristyle columns at the east end marked by shrubs. Some of the granite columns of the colonnade that enclosed it have been re-erected. Eleven columns on the north side of the Hadrianeum and part of the entablature are built into the present 'Borsa' in Piazza di Pietra;[27] a length of the cella wall on the north side and part of the coffered vault of the cella are also preserved. It also was enclosed by a colonnade, the extent of which has been partly traced.[28] The Mausoleum of Hadrian has passed through a long post-classical history as Castel Sant'Angelo,[29] and much of the original Hadrianic building may still be studied.

Unfortunately, except in the case of the Hadrianeum, few fragments of the architectural ornament of these buildings have been preserved to us; but a brief study is enough to show that the style contrasts strongly with the 'Augustan Revival' decoration and with the earlier Roman ornamental tradition. This new style has not hitherto received full treatment,[30] although its influence on later Roman architectural history is one of the greatest importance. In this paper I shall proceed from a detailed description of the architectural ornament of the buildings, dealing first with the Hadrianeum (the best preserved of the three), to a discussion of their common forms and the probable origins of the style. Finally, I shall discuss its influence on contemporary and later monumental architecture in marble in Rome and Italy.

THE TEMPLE OF DIVUS HADRIANUS (fig. 2; pl. XXXI)

In Piazza di Pietra the architrave from the first surviving column at the east end to the seventh column is ancient, together with considerable parts of the frieze, which has, however, been much worked over and restored (H. Lucas, *art. cit.*,[27] p. 4; for a good photograph of the present state see Strack, *Baudenkmäler des alten Rom*, Berlin, 1890, pl. 17). The present cornice belongs partly to the reconstruction of 1694 and partly to that of 1879, but a stretch of the upper mouldings (sima and corona) in the centre derives from the original entablature. It was found under Clement XII (1730–40) (R. Lanciani, *Bull. Com.* vi, 1878, p. 24), and set in the present entablature in 1879. There is another fragment of the upper mouldings in the

[24] Bloch, p. 256. (Only a few stamped bricks from the monument have been discovered and catalogued, and they give little help towards precise chronology.) The date 134 (cf. *CIL* VI 973, the dedication of the Pons Aelius) has been suggested for the beginning of construction but without good reason.

[25] S.H.A., *vit. Veri* 3. 1, 'Qua die togam virilem Verus accepit, Antoninus Pius ea occasione qua patris templum dedicavit, populo liberalis fuit', for if Verus assumed the toga virilis at the same age as Marcus he would have done so in this year and, further, Antonine coins of the year 145 bear the legend Liberalitas IV (Cohen ii, 318 f. 490–501, *B.M. Cat. Antoninus Pius*, pl. 40, 16).

[26] A. Muñoz, *La sistemazione del tempio di Venere e Roma*, Rome—Governatorato, 1935. The most valuable early study is that by Nibby, ii, pp. 723–40; see also Canina, pls. LI–LVI, D'Espouy, *Monuments* ii, pls. 90–95, Hülsen-Jordan I, 3, pp. 17–20.

[27] For the surviving remains, see especially V. Passarelli, 'Rilievo e studio di restituzione dell'Hadrianeum', *Communicazioni presentate al III Convegno Nazionale di Storia dell'Architettura*, Rome, 1940, pp. 123–30. The building has been little studied; the important earlier work is Lucas, 'Zur Geschichte der Neptunsbasilika in Rom', in *Jahresbericht Kaiser Wilhelms-Realgymnasium zu Berlin*, 1904.

[28] R. Lanciani, *Bull. Com.* vi, 1878, pp. 25–6, pls. IV, V; id., *Forma Urbis Romae* sheet 15.

[29] The fullest and most recent general study is M. Borgatti, *Castel Sant'Angelo*, Rome (Libreria dello Stato), 1931.

[30] E. Fiechter, in Toebelmann, p. 83, draws a parallel between the decoration of the Hadrianeum and the so-called Temple of Serapis on the Quirinal (see below, p. 139). See also H. Kähler, *Röm. Mitt.* lii, 1937, p. 94.

Tabularium (pl. XXXI, *a*), and yet another, preserving parts of the consoles and coffers, is now in the garden of the Antiquario Comunale (pl. XXXI, *c*). Both these fragments were engraved by Piranesi (*Il Campo Marzo dell'Antica Roma*, Rome, 1762, pl. II, 13, 14) and used by Villain in his reconstruction—'Temple de Marc-Aurèle', in *Restaurations des Monuments Antiques par les pensionnaires de l'Académie de France*, Paris, 1881; the drawings were done in 1824.

Of the entablature that ran over the half-columns in the interior of the cella, some of the cornice is still *in situ*, but of the richly decorated frieze and architrave that is shown in earlier drawings only a badly damaged fragment now survives, lying against the north wall of the cella.

Besides these fragments from the Temple proper, two other pieces, one of frieze and architrave carved in a single block, and one of cornice (pl. XXXI, *b*), were found in Piazza di Pietra in 1878 (R. Lanciani, *Bull. Com.* vi, 1878, pp. 24–27, pls. II and III), of which the frieze and architrave certainly, and the cornice most probably, belonged to the surrounding colonnade; both fragments are now in Via delle Tre Pile. Lanciani assigns the frieze and architrave to the colonnade and the cornice, wrongly, to the main order of the Temple. Palladio (*I Quattro Libri dell'Architettura*, Venice, 1581, iv, 60) in his reconstruction used a fragment of the Tre Pile cornice in the main order of the Temple (so also Canina ii, pl. CXLVII), but it is clearly much too small. Eleven other fragments of the same frieze and architrave were re-used in Sixtus III's Lateran Baptistery, in the façade and the interior peristyle (G. B. Giovenale, *Il Battistero Lateranense*, Rome (Pont. Ist. Arch. Crist.), 1929, figs. 67 and 86; A. M. Colini, *Il Celio nell'Antichità* (*Mem. Pont. Accad.* vii, 1944, pp. 368–9)). Kähler ('Zu den Spolien im Baptisterium der Lateransbasilika', *Röm. Mitt.* lii, 1937, pp. 106–18) seems to have thought that Lanciani's fragment was lost and is not convinced of the connection with the Lateran pieces, because Lanciani's measurements do not correspond exactly with Giovenale's. The Tre Pile fragment cannot, at present, be measured accurately, but Lanciani's measurements seem to be correct; there is no doubt that all the fragments derive from the same building. A number of other pieces from the same cornice as that found in 1878 survive among the fragments on the north side of the temple cella.

The two most valuable of the earlier drawings are reproduced together in fig. 2. The first of these is a fine measured detail drawing of the main order by Antonio da Sangallo the elder (Uffizi Arch. 1410, Bartoli, i, pl. LXXXVII, fig. 156). It was drawn, probably, between 1492 and 1496 (Bartoli, p. 25). At this time some of the cornice may have been still *in situ*; it had certainly disappeared by 1575, for none of it is shown by Du Perac (*I vestigi dell'antichità di Roma*, Rome, 1575, pl. 34). Gamucci (*Libri quattro dell'-antichità di Roma*, Venice, 1565, p. 156) shows a stretch of cornice *in situ* at the east end, and Dosio (*Urbis Romae aedificiorum . . . reliquiae*, Rome, 1569) shows a fragment at the east end and another at the west end; it seems likely that the cornice in both drawings is a reconstructed addition. The second drawing is a measured detail of the interior decoration by an anonymous French architect in the Vienna Hofbibliothek collection (H. Egger, *Kritisches Verzeichnis der Stadtrömischen Architektur—Zeichnungen der Albertina*, i, Vienna, 1935, pl. I). This drawing agrees in most of the detail with the engraving in Palladio, *Le Terme dei Romani*, Vicenza, 1785, pl. XXIV, though Palladio omits the decoration of the cavetto above the frieze, and the bead-and-reel between the fasciae of the architrave, and has rams' heads supporting the garlands. The rough sketch by Antonio da Sangallo the younger (Uffizi Arch. 1175, Bartoli, pl. CCLXXIX, fig. 464) shows essentially the same design. Villain (*op. cit.*, pl. V) saw only the existing fragment of the frieze and architrave; he reconstructs the ornament of the frieze from a similar frieze in the Forum of Trajan (hence the canthari wrongly), and the decorated fascia by analogy with that of the architrave of the Temple of Castor. The surviving fragment was taken down from its original position probably in 1879, during the establishment of the *Borsa* (*Not. Scavi*, 1879, pp. 266–7).

The entablature of the main order is 3·35 m. high: cornice 1·28 m., frieze 98 cm., architrave 1·09 m. The columns with capitals and bases are 15 m. high. Cornice, frieze, and architrave are each carved in a separate block; the marble is Proconnesian. The sima of the cornice is crowned by a plain fillet and decorated with a design of fan palmettes, of which the ends of the leaves curl, alternately, upwards and downwards. The lower part of each palmette is covered by a large acanthus leaf, which rises from a five-lobed calyx. A single palmette leaf issues horizontally from below the calyx on either side and divides into two scrolls; the upper (and larger) scroll is bound by a

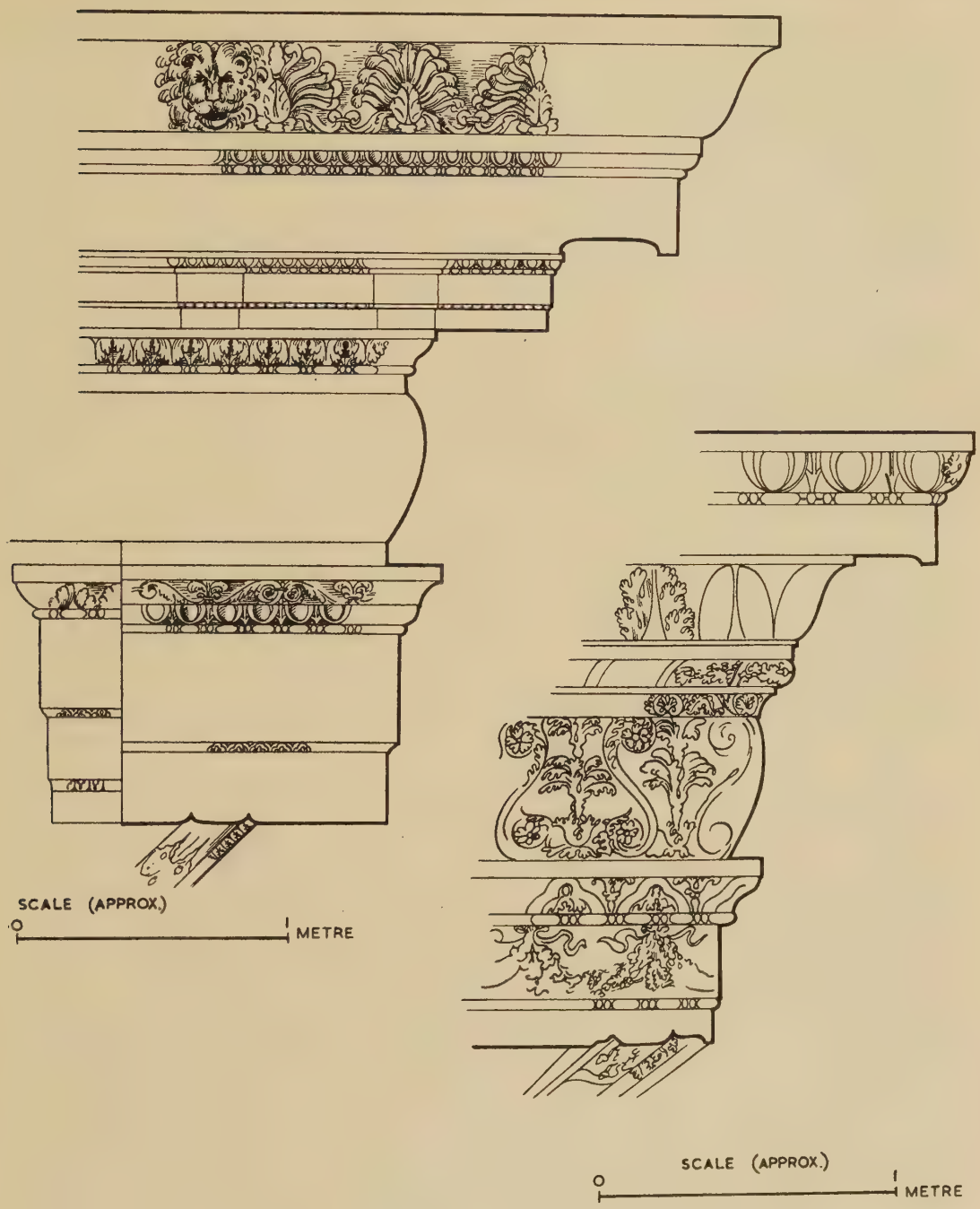

FIG. 2.—THE TEMPLE OF DIVUS HADRIANUS.

Left, the main order (after Antonio da Sangallo the elder); *right*, the interior order (after an anonymous French architect).

ribbon to the scroll of the next palmette, and at intervals along the sima are lions' heads in high relief, each covering half of two neighbouring palmettes. The sima is divided from the corona by a row of egg-and-dart above a bead-and-reel. The corona is plain both in its face and underside, which had the usual 'lip' at its forward edge; it is supported by consoles, set back a considerable distance from the face of the corona. These consoles, which are rectangular in shape, are crowned by an egg-and-dart and a small ovolo with leaf ornament and are divided into two fasciae by a second leaf-ornamented ovolo (pl. XXXI, *c*); in the coffer panels between them are carved rosettes. Below the consoles, and crowning the plain convex frieze, is a cyma reversa moulding with leaf-and-tongue decoration and a bead-and-reel. The architrave has ornamented profiles on both its faces. The outer face is divided into two fasciae by a cyma reversa moulding (type B) and crowned by three mouldings, a cavetto decorated with an anthemion in acanthus foliage, an egg-and-dart, and a bead-and-reel; the inner face has three fasciae divided by (above) a cyma reversa (type B) and (below) a cavetto profile with leaf ornament, and is crowned by an ovolo moulding with leaf-and-tongue and a bead-and-reel (pl. XXXI, *d*). The soffit of the architrave has convex panels of oak-wreath and guilloche framed by a cyma reversa (type D).

The cornice of the interior (fig. 2, right) had no sima; its plain, strongly projecting corona is crowned by an egg-and-tongue and a bead-and-reel, and below it is a tall cyma recta decorated with upright acanthus leaf. From the drawings, it appears that a broad fillet, an ovolo with oak-wreath ornament, and a cavetto with a design of palmettes cased in acanthus foliage linked with inverted acanthus calyces, crowned the convex-profiled frieze, which was decorated with an elaborate design of acanthus foliage and scrolls. The architrave was again divided into two fasciae, crowned by a cyma reversa (type B) and a bead-and-reel; the first fascia was decorated with a frieze of garlands and divided from the second by a bead-and-reel. There was a decorated soffit.

The cornice found in 1887 and now in the Via delle Tre Pile (pl. XXXI, *b*) is closely similar in design to that of the main order. The sima is decorated with palmettes in acanthus foliage bound together, and it is divided from the corona by a cyma reversa (type C). The corona is plain, and the consoles, which are again set back from the face of the corona, are of the same rectangular type, crowned by an egg-and-tongue and bead-and-reel and are divided into two fasciae by a small ovolo with plain leaf ornament; the undersides of the consoles are decorated with narrow panels of, alternately, guilloche and wreath ornament, and in the coffers between are carved rosettes.

On the Tre Pile and Lateran Baptistery fragments the frieze is convex and undecorated, and is crowned by a cavetto decorated with acanthus-leaf and lotus ornament and a small ovolo with leaf decoration. The outer face of the architrave is in two fasciae, surmounted by an egg-and-dart and bead-and-reel, and the upper fascia, which is decorated with a frieze of deeply carved vertical fluting, is divided from the lower by a cyma reversa (type B). The inner face has three fasciae, crowned by a leaf-and-tongue cyma reversa and a bead-and-reel; the fasciae are divided by (above) a leaf-ornamented ovolo and (below) an ovolo of twisted ribbon. The soffit of the Tre Pile fragment has a narrow convex panel, decorated with a guilloche, and framed by a leaf cyma reversa.

THE TEMPLE OF VENUS AND ROME (fig. 3; pl. XXXII)

From the main order of the Temple, several fragments of the sima and of the lower mouldings of the cornice still exist on the site. The largest fragment was set up soon after its discovery in 1825 (Nibby, ii, p. 737) on the north side of the western cella (Muñoz, *op. cit.*, p. 19). There are now no recognisable pieces of the frieze (except, possibly, one badly damaged fragment) or of the architrave. In the Lateran Museum (Sala IX, no. 443) there is another fragment of the sima, preserving a lion's head and part of one of the palmettes, and there are some smaller fragments of the palmettes in the same room. In the Magazzino below the Cortile Ottagono of the Vatican Museums, there is a fragment with parts of the consoles and coffers, a fragment of the upper mouldings of the architrave (pl. XXXII, *b*) and a number of other pieces from the main order, among which is a fragment of the corona (pl. XXXII, *c*) which shows well the best form of the egg-and-dart on the cornice (see below, p. 136, n. 77).

Canina (ii, pl. LIV, fig. 1) draws the complete entablature of the main order, which he claims was reconstructed from fragments in the area of the Temple (i, p. 99, 'quale si potè dedurre dai frammenti della cornice, del fregio e dell'architrave che si rinvennero sparsi tra le indicate reliquie'). His drawing (fig. 3), however, is inaccurate in detail, and some of it, especially the mouldings above the frieze, was probably reconstructed by analogy with the Temple of Divus Hadrianus. His reconstruction agrees in the main with Vaudoyer's (1830) drawing published in H. D'Espouy, *Fragments d'Architecture Antique*, ii, 1905, pl. 90. There are no earlier drawings of any part of the main entablature; for Renaissance drawings of fragments on the site of the Temple see Bartoli, i, pl. XXXII (Fra Giocondo), and iv, pl. CCCXXVI (G. B. da Sangallo), *Cod. Borgo San Sepolcro* (*B*), f. 23 (Cherubino Alberti) and *Cod. Vat. Lat.* 3439, f. 43.

Canina also draws (fig. 10 on the same plate) an architrave, decorated on both faces and having an elaborately ornamented soffit, which he assigns to one of the entrances of the surrounding colonnade, and a small architrave and frieze, carved in one piece, deriving from the interior of the cella. Both these fragments still survive, and there is another fragment of the architrave soffit in the portico of SS. Apostoli.

The large cornice (pl. XXXII, *a*), which is now in the Antiquario Forense, seems to have been found in the western cella of the Temple (so Dr. G. F. Carettoni, on the authority of Prof. Bartoli) and some other pieces of the same cornice are in the Magazzino beneath the Cortile Ottagono. This cornice was copied in detail for the decoration of the north apse which Constantine added to the Basilica Nova (see Toebelmann, pl. XXI, and *PBSR* xii, 1932, pl. XII). A few other fragments on the site of the Temple derive from some part of the building; the most important of these is the sima fragment illustrated by Muñoz (*op. cit.*, p. 13).

As reconstructed by Canina, the entablature is 4·82 m. high: cornice, 1·84 m.; frieze with its crowning mouldings, 1·50; architrave, 1·48. The marble of the surviving fragments is Proconnesian.

The sima is carved in a separate piece and, crowned by a plain fillet, is decorated with fan palmettes and lions' heads. The ends of the palmette leaves again curl alternately upwards and downwards, and from the acanthus leaf and calyx, which cover the lower part of the palmettes, issue two stems, one on either side, and divide into two scrolls. The design is somewhat different from that of the Hadrianeum sima; here, the scrolls are not bound together and the high-relief lions' heads replace one complete palmette, not parts of two. An ovolo of egg-and-dart crowns the plain corona, which again projects strongly in front of the consoles; its underside is plain, rising slightly from front to back, where it meets an ovolo of egg-and-dart. Below this ovolo are two narrow fillets, the lower stepped behind the upper. The consoles have the same rectangular form, crowned by an ovolo of egg-and-dart and divided into two stepped fasciae; in the recessed coffer panels between the consoles were attached, probably, metal rosettes. According to Canina, the frieze was flat and without decoration, and was crowned by a cyma reversa with leaf-and-tongue ornament and a bead-and-reel. The architrave was surmounted by a broad fillet, a cavetto decorated with a palmette design (similar to that

on the sima of the entablature of the square base of the Mausoleum of Hadrian, see pl. XXXII, *d*; Canina is here inaccurate), an ovolo of egg-and-dart and a bead-and-reel; it was divided into two fasciae by a cyma reversa (type B).

The architrave that Canina assigns to the portico has crowning fillet, egg-and-

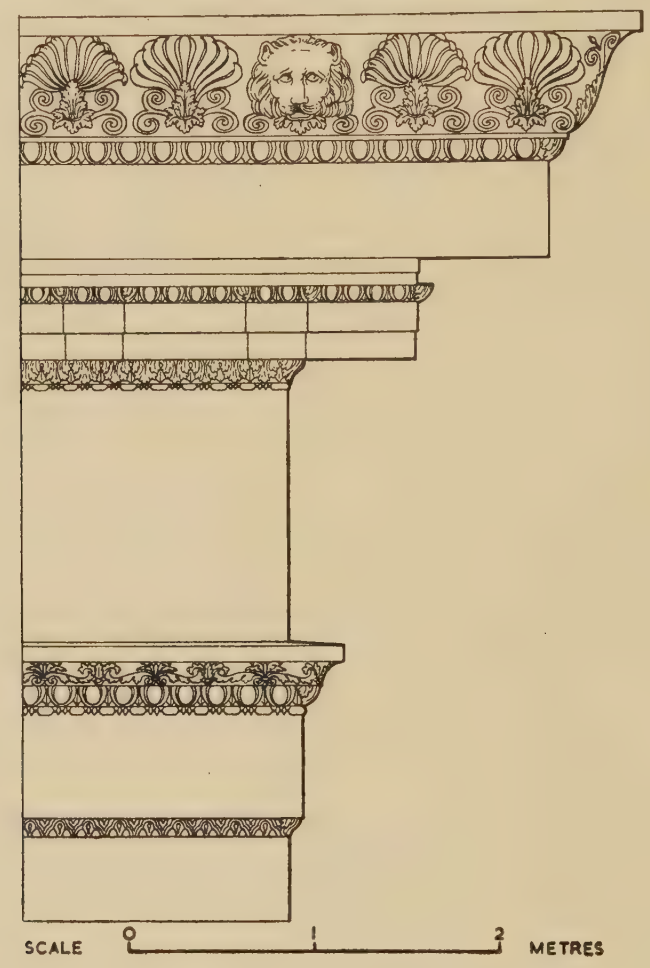

FIG. 3.—THE TEMPLE OF VENUS AND ROME.
The main order (after Canina).

tongue, and bead-and-reel, and it is divided into three fasciae by (above) a cyma reversa (type C) and (below) a bead-and-reel; its soffit has a panel decorated with elaborate scroll-design framed by a cyma reversa (type D). The cornice in the Antiquario Forense shows a curious mixture of ornamental styles; the decorated crowning fillet, the carving of the acanthus leaf-and-tongue sima, the forms of the cyma reversa between sima and corona, and the egg-and-dart below the corona are all Flavian features; but the plain,

strongly projecting corona, the bar connecting the dentils, and the form of the cyma reversa (type B) are in the Augustan revival style (pl. XXXII, *a*). On the sima fragment illustrated by Muñoz, the palmette ornament compares very closely with that on the Antonine fragment in the garden of the Antiquario Comunale (see above p. 122, pl. XXX, *f*).

THE MAUSOLEUM OF HADRIAN (ENTABLATURE OF THE SQUARE BASE) (fig. 6; pls. XXXIII, XXXIV)

For surviving fragments, drawings, etc., see Appendix I.

As reconstructed in fig. 6 the complete entablature is 2·185 m. high—cornice 73 cm., frieze 72·5 cm., architrave 73 cm. The marble seems to be Luna.

The ornament of the sima consists of a series of lotiform and fan palmettes, the leaves of the fan palmettes curling alternately upwards and downwards; the lotiform palmettes act as frames for the fan palmettes, and from their bases issue leaf-stems, which divide into two scrolls. The smaller (lower) scrolls form the bases of the fan palmettes, the lower parts of which are covered by acanthus leaves. At intervals a lion's head in high relief replaces a fan palmette. An ovolo of egg-and-dart divides the sima from the plain, strongly projecting corona, below which is a cyma reversa (type B) and a row of dentils. The frieze, crowned by an egg-and-dart and a bead-and-reel, was decorated with bulls' heads and garlands, the latter surmounted by paterae. The architrave is in two fasciae, crowned by an egg-and-dart and a bead-and-reel, and the two fasciae are divided by a cyma reversa (type B).

The decorative tradition of marble architecture in Rome during the first century A.D. was created during the reign of Augustus. In the earlier Augustan period we find a variety of ornamental styles, mainly the work of architects and craftsmen from the Greek East. That of the earliest marble buildings in Rome, such as the Regia or the temples of Divus Julius and of Saturn, still carries on the tufa and travertine style of the late Republic. Somewhat later, however, between 20 and 10 B.C. the architect who designed the decoration of a number of important buildings—the Arch of Augustus, the Temple of Apollo Sosianus, and probably the lower interior entablature of the Basilica Aemilia—created a very individual style, of which a number of features seem to be Asiatic in origin. The Temple of Mars Ultor, on the other hand, has more purely classical Greek ornament, as may be seen from a comparison of the cyma reversa (type B) and the ovolo decoration with those, for example, of the Erechtheum. In these earlier Augustan buildings in Rome the direct influence of the Greek East is unmistakable; but the style rapidly took root. In the buildings erected in the earliest years of the first century A.D., such as the temples of Castor and of Concord, we find, already fully established, the ornamental style that was to develop in increasing richness throughout the Julio-Claudian period and culminate in the elaborate ornament of Flavian public building. The uniformity of this development is somewhat obscured by the absence of surviving monuments of the later Julio-Claudian period, but many fragments that must belong to this phase show Flavian motifs already in use, and it is a significant fact that the earliest surviving Flavian monuments, such as the temple of Divus Vespasianus, are

the most elaborately ornamented. Throughout this period a variety of new motifs are introduced, but the natural development, in accordance with the Roman taste for ornate, finely carved architectural detail, from late Augustan to Flavian times is clear. There followed, under Trajan and Hadrian, the reaction favouring the more severe, classical ornament of the Forum of Augustus.

By contrast, many features of the profiling and ornament of this group of late Hadrianic entablatures either appear rarely in the Roman first-century tradition, or are quite foreign to it. On these cornices the sima is divided from the corona by an ovolo profile replacing the traditional cyma reversa. The new type of console, rectangular in shape and divided into fasciae in the manner of an architrave, is crowned by an ovolo, whereas the traditional scroll-and-acanthus type of the first century is almost invariably crowned by a cyma reversa profile; [31] and—another new feature—the consoles are now set well back from the face of the corona. The Hadrianeum (in the main order and in the interior entablature) gives us the first use of a frieze with convex profile on monumental architecture in Rome. On the entablatures of the Temple of Venus and Rome and of the Hadrianeum, the architrave is divided into two fasciae and crowned by three mouldings, a cavetto, an ovolo, and an astragal; in the Mausoleum there is the same two-fascia scheme with, instead, a crowning of ovolo and astragal. Neither arrangement is found on large-scale work of the first century A.D., when the architrave is almost invariably divided into three fasciae,[32] at first by plain stepping or astragals, and later by more complicated profiles; the earlier crowning is generally a cyma reversa, a cyma reversa and astragal, or, commonly in the Flavian period, a cavetto and astragal.[33] In the decoration the contrast with earlier work is no less marked than in the manner of their profiling. The new ornamental forms introduced in this period and the different manner of carving traditional motifs are discussed in detail below; immediately apparent is the complete break with the Augustan Revival manner and with earlier decorative styles in Rome. The rich variety of motifs and the delicate workmanship of first-century ornament are entirely absent from the decoration of the Temple of Venus and Rome and from the Mausoleum, which show us the style as it first appears in Rome. Although in the rather later Hadrianeum the Roman taste for rich ornamental detail has largely reasserted itself, and we find many earlier motifs again in use,[34] together with extensive borrowings from earlier styles, the decorative poverty and the rougher workmanship of the earlier buildings, nowhere better exemplified than in the monotonously repeated and often poorly carved ovolo decoration on the cornice of the Temple of Venus and Rome, stand out in strong contrast with the richness and finish of earlier Roman ornament.

[31] A rare example of the ovolo crowning occurs on a fragment in the Forum of Nerva (von Blanckenhagen, pl. 14, fig. 44).

[32] In the later Republican period architraves in tufa and travertine are frequently divided into two fasciae, the lower generally taller than the upper (e.g. Delbrueck, *Hellenistische Bauten in Latium*, ii, Strasbourg, 1912, fig. 2 (Palestrina), pl. XIII (Tivoli), pl. XXII (Tomb of Bibulus)).

[33] At the end of the Republic we occasionally find used cavetto and cyma reversa (see some of the examples given in note 32) or cavetto, ovolo, and astragal (for example, on an architrave with frieze of bulls' heads and garlands in the Museo Nazionale delle Terme), or ovolo crownings. Later, the architrave of the Temple of Apollo Sosianus has a crowning of cavetto and ovolo, one reason for suspecting that the architect was an Asiatic (see Colini, *Bull. Com.* lxviii, 1940, p. 27, figs. 18 and 19).

[34] Note, for example, the more elaborate consoles of the cornice of the main order and the cornice in Via delle Tre Pile; and the return of the cyma reversa, type D (soffit of the architrave of the main order) and type C (Tre Pile cornice).

Kähler has already pointed out a very important parallel for the profiling of these late Hadrianic entablatures from a well-known building outside Italy.[35] The entablature of the façade of Hadrian's Stoa at Athens [36] is without ornament, but its profiling resembles very closely that of the Temple of Venus and Rome, with the sima divided from the corona by an ovolo, the corona projecting in front of rectangular consoles that are divided into two stepped fasciae and crowned by an ovolo, and the architrave divided into two fasciae with a cavetto, ovolo, and astragal crowning. Only the frieze is different, having an S-curved profile, of a type that is common in mainland Greece (see below) and a crowning of ovolo and astragal. Fragments of a small, similarly profiled cornice exist on the site of the Stoa of Eumenes, but the frieze and architrave that probably belong with it are profiled in a manner traditional in Greece—the frieze S-curved, the architrave divided into three stepped fasciae with a crowning of cavetto and cyma reversa. Although there is no other surviving example in Athens of a similar console cornice belonging to this period, entablatures using some of the distinctive features occur in both orders of the Arch of Hadrian [37] and on the aqueduct building at the foot of Mount Lykabettos.[38]

Asia Minor provides an even closer parallel to these late Hadrianic entablatures in Rome. The Trajaneum at Pergamon (see fig. 4, pl. XXXV),[39] begun apparently at the end of Trajan's reign and completed in the early years of his successor,[40] has an entablature which differs only in decorative detail from that of the Temple of Venus and Rome. The sima of the raking cornice has a design of alternately 'open' and 'closed' fan palmettes; [41] here the palmettes rise from acanthus calyces surmounted by a small acanthus leaf, and their lowest leaves curl downwards to form scrolls flanking the calyces and touching against the scrolling leaf of the next palmette. The sima of the straight cornice is decorated with 'divided' palmettes,[42] with inward curling leaves joined with small, five-leaved, fan palmettes which rise from acanthus calyces flanked by scrolls; at intervals are high-relief lions' heads. Below the sima, a fillet and an egg-and-tongue divide it from the plain corona. In front of the consoles the soffit of the corona runs back to an egg-and-tongue, below which is a tall fillet; the consoles are rectangular in shape, divided into two fasciae by plain stepping, and crowned by an ovolo of egg-and-tongue. On the undersides of the consoles are narrow, undecorated, convex panels, and in the coffers between were once attached metal rosettes. Another egg-and-tongue runs over the frieze, ornamented with Medusa heads between tall consoles, which rise out of acanthus leaves flanked by downward curling scrolls.[43] The architrave is divided into two fasciae by a cyma reversa (type B) and crowned by a cavetto (decorated with small fan palmettes,

[35] 'Zum Sonnentempel Aurelians', *Röm. Mitt.* lii, 1937, p. 94.

[36] J. Stuart and N. Revett, *Antiquities of Athens*, i, 1762, chap. v, pl. VII; for the topography of the Stoa, W. Judeich, *Topographie von Athen*, Munich, 1931, pp. 375 ff., pl. 20.

[37] Stuart and Revett, iii, 1794, chap. iii, pls. VI–IX.

[38] *ibid.*, chap. iv, pls. II–IV. Judeich, *op. cit.*, pp. 203–4.

[39] *Altertümer von Pergamon* v, 2, Berlin, 1895. For architectural details, see especially pp. 17–35, pls. X–XIII (main order) and XXIII–XXIV (colonnades). Fig. 4 is traced from pls. X and XIII.

[40] For the dating, see also W. von Massow, *Führer durch das Pergamon-Museum*, Berlin, 1932, 104–5.

[41] These terms are used to describe, respectively, fan palmettes with the leaf ends curling downwards and upwards.

[42] By 'divided' palmettes is meant the form consisting of two half-palmettes placed together to form a single motif; it is common in Greece and Asia Minor in Hellenistic and Roman times. At Priene, for example, it is used both in the Temple of Athena Polias (T. Wiegand and H. Schrader, *Priene*, 1904, fig. 74) and in the Temple of Asklepios (*ibid.*; fig. 117) to decorate the straight sima. 'Open' and 'closed' palmettes are used on both buildings for the gable sima.

[43] This type of frieze is discussed by E. Weigand in *JDAI* xxix, 1914, pp. 52–3.

alternately 'open' and 'closed'), an ovolo of egg-and-dart and a bead-and-reel; the soffit is ornamented with narrow convex panels of overlapping leaves framed by a bead-and-reel.

The colonnades that ran round three sides of the Trajaneum had an undecorated

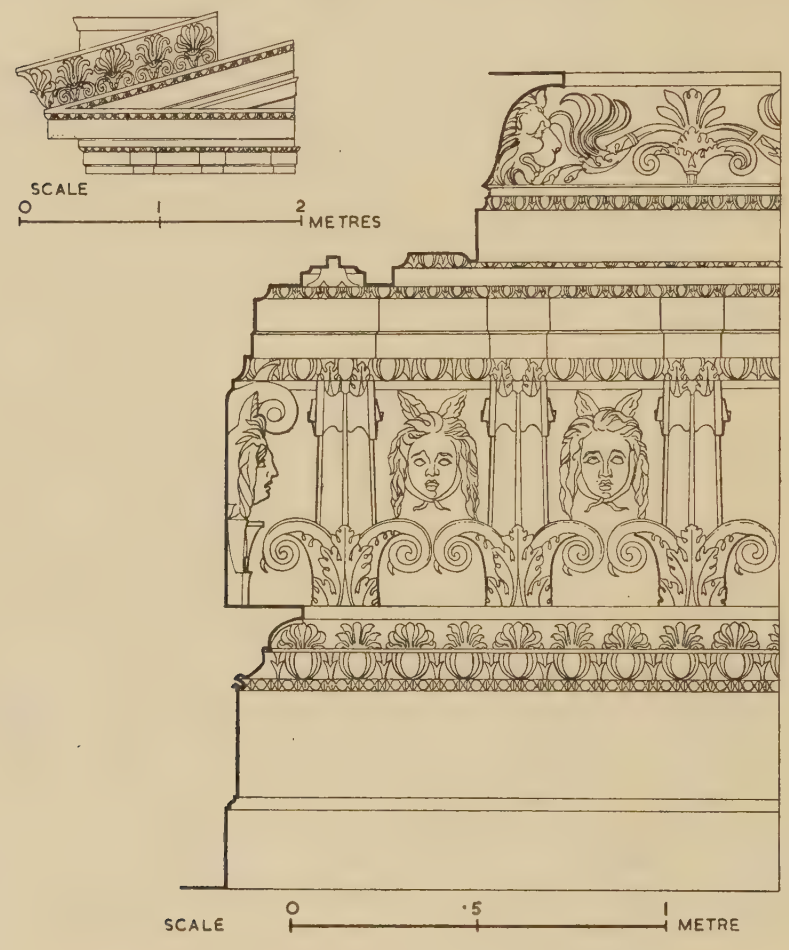

FIG. 4.—THE TRAJANEUM AT PERGAMON.
The main order (after *Altertümer von Pergamon*).

entablature with simplified profiling based on that of the main temple. Elsewhere in Pergamon, the entablature (pl. XXXV, *b*) of the Ionic West Colonnade of the Asklepieion, erected about A.D. 150,[44] repeats in detail the entablature of Hadrian's Stoa at Athens. Another temple building in Asia Minor that has many features, both in profiling and decoration, in common with the Trajaneum is the smaller peristyle temple at

[44] Th. Wiegand, 'Zweiter Bericht über die Ausgrabungen in Pergamon 1928–32: Das Asklepieion', *Abh. preuss. Akad. Wiss.*, 1932, pl. V.

Side, on the south end of the peninsula to the east of the harbour (fig. 5).[45] The sima is here decorated with 'divided' fan palmettes joined to lotus forms; at intervals are high-relief lions' heads. The sima is divided from the corona by an egg-and-tongue and a bead-and reel, and the rectangular consoles, crowned by a cyma reversa and divided into two fasciae by a bead-and-reel, are set well back from the face of the corona. The frieze design almost repeats that of the Trajaneum; the architrave is crowned by a fillet, a cyma reversa (type B), and it is divided into three fasciae by rows of bead-and-reel. This building is probably two or three decades later than the Trajaneum, and it seems

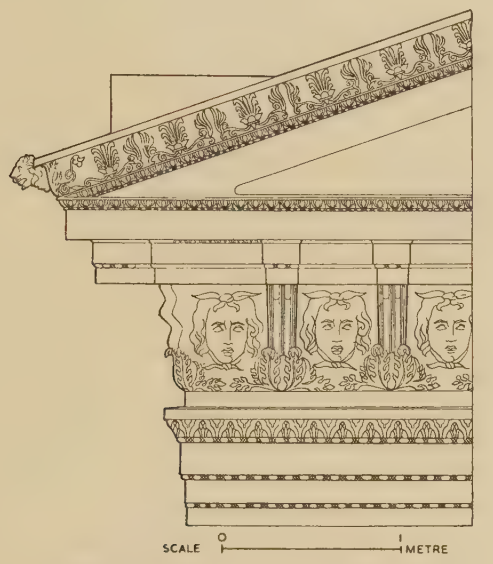

FIG. 5.—THE SMALLER PERISTYLE TEMPLE AT SIDE.
The main order (after Arif Müfid Mansel).

likely that an architect trained at Pergamon was responsible for its construction in the middle of the second century.[46]

The close similarity between the entablatures in Asia Minor, Greece, and Italy immediately suggests a common origin for the type. The problem of tracing the origin is not a simple one; the migration of architects throughout the Roman Empire, especially in this period, is an unquestionable fact. As von Massow [47] and others have pointed out, the Trajaneum, raised up on its high podium and surrounded by a colonnade, is related to the Fora of Imperial Rome, and the façade of Hadrian's Stoa with its entablature projecting at intervals over columns set close to the wall recalls the Forum of Nerva in Rome. The Trajaneum is earlier in date than the buildings in Rome, but this alone would not be adequate authority for describing the style as Asiatic. However, if it can be shown that the profiling and decorative details of these entablatures, which we have found to be foreign to the Roman repertory of the first century A.D., have their origin in a particular architectural tradition, we should have good reason for supposing that the

[45] Arif Müfid Mansel, *Vorläufiger Bericht über die Ausgrabungen in Side im Jahre 1947*, Ankara, 1951, pp. 16–22.

[46] *ibid.*, p. 21.

[47] *op. cit.*, p. 104.

architect who devised those forms was trained in that tradition, even though we could not find (and, indeed, we should not expect to find) exact parallels in an earlier period.

Athens and mainland Greece may be immediately excluded as a possible place of origin for the late Hadrianic style. It is true that no part of the Greek East was more influential in forming the Roman ornamental tradition in the Augustan period than Athens; the stimulus was a revival of classical forms in this period, which produced, in Athens, such buildings as the Temple of Rome and Augustus [48] on the Acropolis and the Odeum of Agrippa in the Greek Agora,[49] and reached Rome through the work of Athenian architects and craftsmen employed in the Imperial service. However, after Augustan times, few large buildings were erected, and the quality of work seems to have declined sharply; the decorative motifs are few and monotonously repeated, as though the inspiration of classical Athens had passed to Rome. What little survives of Roman work of the first century A.D. in Athens (and the same is true of the much richer material in Corinth) shows quite clearly its common origin with the Roman decorative tradition. At Corinth architraves are generally profiled with a crowning of cyma reversa or a cavetto and cyma reversa, and are divided into three fasciae by plain stepping, or by astragals; friezes commonly have the S-curved profile and are sometimes decorated with simple anthemia in low relief.[50] On the cornices the sima is generally divided from the corona by a cyma reversa; we find consoles of simple scroll-and-acanthus type with the crowning of cyma reversa, and one example on a fragment in the Agora has precisely the form adopted for the Temple of Mars Ultor in Rome. In Athens the majority of fragments from Roman buildings in the area of the Greek Agora have similar profiling and rather poor decoration. The example from the Stoa of Eumenes [51] is typical of the profiling of the frieze and the architrave; on the colonnades of the Roman Agora we find the sima of the cornice divided from the corona by a cyma reversa, the frieze S-curved and the architrave divided into three stepped fasciae and having a crowning of cavetto and cyma reversa. A similar scheme occurs on the architrave from the main order of the Augustan Odeum of Agrippa.[52]

The Hadrianic period brought with it a revival of building activity in Athens as elsewhere, but it is clear that the entablature forms that occur on the Hadrianic monuments of Athens are not traditional. On these same buildings we find capitals used that are certainly not local in style (see below), and there seems to be little doubt that the stimulus for the Hadrianic building programme in Athens came mainly from abroad.

On the other hand, in Asia Minor there had existed from Hellenistic times a tradition of architectural ornament, comparatively free of influence from the Roman capital, where, as we have seen, the first-century style had developed from beginnings more associated with the classical style of mainland Greece. Relatively few of the commonest Roman motifs, which early found their way to Syria,[53] and which largely dictated the ornamental styles of those parts of the Empire nearer to Rome, such as

[48] G. A. S. Snijder, *Mededeelingen van het Nederlandisch Historisch Instituut te Rome* iii, 1923, pp. 73–111; Judeich, *op. cit.*, pp. 256–7.

[49] *Hesperia* xix, 1950, pp. 31–141.

[50] The Captives façade in the Agora at Corinth, though of somewhat later date (*c.* A.D. 150), is typical of the style and quality of ornamental work; see *Corinth Excavations*, i, pt. 2 (Architecture) 1941, pp. 55–88, esp. figs. 53, 54.

[51] See above, p. 131.

[52] *Hesperia cit.* pl. 36*b*.

[53] On the relation between Syrian and Roman ornament see E. Weigand 'Baalbek und Rom, Die römische Reichskunst in ihrer Entwicklung und Differenzierung', *JDAI* xxix, 1914, pp. 37–91.

Provence, were adopted in Asia Minor.[54] Naturally, we do find motifs that seem to be of Roman invention; thus, in the early second-century Library façade at Ephesus, the cornice of the lower order [55] has a cyma recta profile decorated with anthemion in acanthus foliage, and its corona is decorated with vertical fluting, both popular Roman motifs; but, on the whole, the style remains independent and retains many distinctive local features.

It is not necessary to enter into a detailed treatment of Asiatic architecture to show that many of the distinctive features in our group of entablatures belong to this Hellenistic tradition. The use of an ovolo profile to divide the sima from the corona was widespread in the Hellenistic period,[56] although the cyma reversa is also found [57] and, indeed, is probably commoner in the earlier Roman period than the ovolo; [58] in the second century the ovolo is general.[59] Although we can point to only one first-century example of the use of rectangular consoles divided into fasciae (in the second order of the *scaenae frons* of the Theatre at Ephesus),[60] the ovolo crowning, almost unknown in Rome, is very common, and the projection of the corona in front of the consoles, which we find, for example, in the upper order of the Baths of Vergilius Capito and the Nymphaeum at Miletus,[61] and commonly in the second century A.D. (e.g. at Aezani—the Temple and Theatre,[62] and in the 'Nymphaeum' at Ephesus),[63] seems to be another distinctively Asiatic feature, although the projection is not usually as marked as it is on the cornice of the Trajaneum and related buildings. The convex frieze and its origin present a more complex problem, which cannot be fully discussed here. Two main forms of profile appear in the Roman period, one convex, the other S-curved. Of these the S-curved seems to be the earlier form, and its origin is possibly Asiatic; we find it in Hellenistic times on the sacrificial altar at Pergamon,[64] and on the west door of the Agora at Ephesus.[65] In the first century A.D. the *scaenae frons* of the Theatre at Ephesus had a decorated frieze of this profile,[66] and we have already seen a number of examples of its use in mainland Greece during the first century A.D. But more common in Asia Minor during the second century is the frieze with simple convex profile, of which the Temple to Apollo Clarius at Sagalassos [67] provides an undecorated example dating to about A.D. 100, and the upper order of the Nymphaeum

[54] It is significant that there does not seem to be a single example in Asia Minor of the popular Roman types C and D cymation.

[55] *JhÖAI* xi, 1908, p. 121.

[56] Commonest in the Hellenistic period is the angular ovolo profile without ornament, as used on the entablatures of the Temples of Athena Polias and Asklepios in Priene (Wiegand and Schrader, *Priene*, figs. 74 (Athena Polias) and 116 (Asklepios)). For a decorated ovolo see the entablature of the Smintheum, *Antiquities of Ionia*, iv, pl. XXIX.

[57] *E.g.* in the Propylaea to the east colonnade of the Agora at Magnesia (J. Kohte and K. Watzinger, *Magnesia am Maeander*, Berlin, 1904, fig. 136).

[58] The cyma reversa is used, for example, in both orders of the Library façade at Ephesus (see note 55); the two lower orders of the *scaenae frons* in the Theatre at Ephesus have ovolo (*Forschungen in Ephesos*, ii, figs. 110 and 142).

[59] Of ten entablatures published by Lanckoronski, all of which belong to the second century A.D., five have ovolo in this position, two ovolo and astragal, and three astragal only.

[60] *Forschungen in Ephesos*, ii, figs. 142, 144. According to the report the two lower orders were completed by A.D. 66; the upper order is dated (most probably wrongly) to the early third century.

[61] *Milet*, i, (9) (Thermen und Palaestren) fig. 37; *ibid.* i, (5) (Das Nymphaeum); for the middle and upper orders see especially pls. 60 and 61.

[62] Texier, *Description de L'Asie Mineure*, i, pls. 31, 31 bis (Temple) and 46, 47 (Theatre).

[63] The architecture has not been published; for a reconstruction of the main entablature see *Antiquities of Ionia*, ii, pls. XLIV, XLV, and for the building generally *JhÖAI* xxiii, 1926, Beiblatt cols. 265–79.

[64] *Altertümer von Pergamon*, iii, 1, pl. XVI.

[65] *Forschungen*, iii, p. 30, fig. 46. The earliest example of its use, however, is in the interior Corinthian order of the Tholos at Epidaurus (H. Lechat and A. Defrasse, *Epidaure*, Paris, 1895, pl. VII).

[66] *Forschungen*, ii, fig. 142.

[67] Lanckoronski, ii, pl. XXV.

at Miletus one with ornament.[68] The simple convex frieze seems to be developed from the S-curved form; it may have first gained popularity in Syria, since it is widely used there during the first century A.D.,[69] whereas it is comparatively rare in Asia Minor during the same period, and does not seem to occur at all in mainland Greece. However this may be, it is sufficient for our purposes to show that the form is intrusive in architecture in Rome and quite clearly of Eastern origin. Again, in Asia Minor the crowning of the architrave with three mouldings, cavetto, ovolo, and astragal, is certainly as early as Hermogenes, who used it in the Temple of Artemis at Magnesia [70] and at Teos; [71] from this period onwards it is widely adopted, though ovolo and astragal, cavetto and cyma reversa, and simple cyma reversa crownings are also found. An interesting example, the Trajanic Nymphaeum at Miletus, has in its lowest order an architrave with the triple crowning, whereas the middle and upper orders have ovolo and astragal.[72] The division of the architrave into two fasciae on the main face is rare in Hellenistic times, but the triple division on the outer face and the double division on the inner is widely used both then and in the Roman period.[73] The exact scheme of the architraves of the Trajaneum, and of the Temple of Venus and Rome and the Hadrianeum (three crowning mouldings, and division into two fasciae by a cyma reversa (type B)) occurs also on Hadrian's gate at Antalya,[74] and commonly in the second century A.D.

If the detail of the profiling of these entablatures suggests an origin in Asia Minor, a study of the ornament of the late Hadrianic buildings in Rome provides equally convincing evidence of their Asiatic derivation and, further, for the presence of Asiatic craftsmen in Rome during this period. The widespread use of palmette ornament to decorate the sima in Asiatic buildings of the Hellenistic and Roman periods has already been studied,[75] and in the Trajaneum we find the usual Hellenistic scheme of having different decoration for the straight and for the raking simas. In the Roman buildings only one form of decoration is employed for both the simas, but in the earliest of them, the Temple of Venus and Rome, the alternate 'open' and 'closed' fan palmettes, with unconnected scrolls issuing from the base calyces, are very close to [76] the design of the raking sima from the Trajaneum (*cf.* fig. 4 and pl. XXXV, *c*; compare pl. XXXVI, *b*). The ovolo ornament on the cornice is of pure Asiatic type,[77] and the same distinctive type was used, to judge from the drawings and from what little survives, on the architrave of the Mausoleum of Hadrian.[78] A more striking parallel is given by the form of

[68] The two lower orders have profiled friezes, which seem to have been designed as S-curved, but the profile is almost indistinguishable from the simple convex one, an indication that the latter type is a development of the former.

[69] For examples see D. Krencker and W. Zschietzschman, *Römische Tempel in Syrien*, Berlin and Leipzig, 1938.

[70] *Magnesia am Maeander*, pl. 5, fig. 35.

[71] *Antiquities of Ionia*, i, chap. i, pl. II.

[72] For the three orders, *Milet*, i, (5), pls. 59–61.

[73] Hellenistic examples of the two-fascia scheme on the main face—the Sacrificial Altar at Pergamon (*Altertümer von Pergamon*, iii, i, pl. XVI), Propylaea to the Sanctuary of Athena, Pergamon (*ibid.* ii, pl. XXIX); Roman examples of the pre-Hadrianic period—Baths of Capito, in the upper order of the Palaestra (*Milet*, i, (9), fig. 36) and the Nymphaeum, Miletus, in both upper orders (*Milet*, i, (5), pls. 60–61).

[74] Lanckoronski, pl. VII.

[75] M. Schede, *Antikes Traufleisten-Ornament*, Strasbourg, 1909, esp. pp. 94–100 and 102–3.

[76] The only important difference is that in the Temple of Venus and Rome the base palmette leaves divide into two scrolls. The forms of the two different palmettes and the modelling of the leaf surfaces are very similar in both buildings. There are, besides, good Asiatic parallels to the lotiform and fan-palmettes design of the Mausoleum (see, for example, pls. XXXVI, *d* and *e*).

[77] The quality of the workmanship on the cornice of the Temple is uneven; the best example of the ovolo is to be found on the fragment now in the Magazzino of the Cortile Ottagono (pl. XXXII, *c*), where the form differs very little from that on the architrave of the Trajaneum (see a detailed drawing published in *Magnesia am Maeander*, p. 58, fig. 42). Characteristic are the forms of the dart and the profiling of the casing; *cf.* also an example on a large console in the Basilica at Pergamon (pl. XXXVI, *a*).

[78] It has been so reconstructed in fig. 6.

the cyma reversa (type B) on the cornice and architrave of the Mausoleum entablature (pl. XXXIII, *c*). The earliest dated example of this form occurs on the façade of the Library at Ephesus (pl. XXXVI, *c*); it is a development of the Asiatic first-century cyma reversa (type B) ornament, and is generally used in the second century A.D.[79] The dentils of the Mausoleum cornice are of a form that is rarely found on earlier buildings in Rome but was common in Asia Minor (e.g. pl. XXXVI, *c* from the Library façade at Ephesus; in both examples the tops of the interstices are set below the crowning fillet). The decoration of the architrave cavetto of the Temple of Venus and Rome, which either had alternate 'open' and 'closed' fan palmettes or lotiform and fan palmettes (pl. XXXII, *b*), must have been very similar to the example from Ephesus shown in pl. XXXVI, *e*. Not only on the earlier buildings, where the decorative style seems to be purely Asiatic and where none of the traditional Roman motifs occur, but also in the later Hadrianeum, the work of foreign craftsmen, unaccustomed to the Roman tradition, is apparent. Many of the old decorative forms return,[80] but the type of the egg-and-dart, the heavy bead-and-reel, the new leaf-and-tongue cyma reversa, the cyma reversa (type B) on the architrave of the Hadrianeum, and the cyma reversa (type C) on the Tre Pile cornice have little in common with the older versions of these motifs.[81] In an effort to return to the richness of earlier ornament many decorative forms are imitated from earlier styles; for example, the frieze of the interior of the Hadrianeum is imitated from the Basilica Ulpia, the decorated architrave fascia is Augustan in origin,[82] and the decoration of an ovolo profile with wreath ornament, common on decorated column bases, is applied for the first time to an entablature. These features, and many others are taken from earlier styles; but the carving of the ornament and the forms of the profiles contrast strongly with earlier work.[83]

The very close similarity between the profiling and ornament of the entablatures of the Trajaneum in Pergamon and the Temple of Venus and Rome makes it probable that the same architect was responsible for the design of both buildings, and that he brought with him to Rome a group of craftsmen who had worked with him in Pergamon. Some of the subsidiary decoration was clearly the work of local craftsmen,[84] but the work on the main order was almost certainly the responsibility of the Greeks from Asia Minor. We may see the same Asiatic hands at work in the decoration of the Mausoleum, probably executed somewhat later than the Temple of Venus and Rome, and it is interesting that in the earlier building they were carving an Asiatic marble, Procon-

[79] For the type see Weigand, *JDAI* xxix, 1914, fig. 34 f and g. It develops out of the first-century Asiatic form, when the strongly marked outline ridges of the tongue are given a separate existence and it acquires the form of a tongue flanked by two bars. For the earlier form, see pl. XXXVI, *f* (from the 'Temple of Bacchus' at Pergamon, *Altertümer von Pergamon*, iv, pl. 39), and for the later, pl. XXXVI, *c* (from the Library at Ephesus).

[80] See above, p. 126.

[81] For the characteristics of these forms, many of which continue in use throughout the second century, see Appendix II. One peculiar feature of the ovolo ornament in this period is the very sharp profile and the splayed-out casing of the egg, a feature which seems to be certainly Asiatic in origin and is found in Asia Minor as early as the Trajanic period (e.g. the form used in the Library façade at Ephesus, pl. XXXVI, *c*).

[82] Examples: Temple of Apollo Sosianus (Colini, *art. cit.*, see n. 33, figs. 18 and 19); Temple of Castor (Canina, ii, pl. XXVIII); architrave on south side of S. Nicola in Carcere (from the door of the central Temple—probably Tiberian). Pierre Jacques (S. Reinach, *L'Album de Pierre Jacques*, f. 29), draws an architrave fragment, probably from the Arch of Claudius, which has two decorated fasciae; the habit of decorating with elaborate ornament all the fasciae of the architrave seems to be later (there are a number of examples of the late third and fourth centuries).

[83] Among other unusual features of the Hadrianeum entablature we may note the ovolo profile decorated with leaf-and-tongue ornament and the leaf-decorated cavetto on the inner face of the architrave (pl. XXXI, *d*).

[84] For example, the cornice in the Antiquario Forense and the architrave illustrated by Canina, ii, pl. LIV, fig. 10.

nesian, which so far as we know was then used for the first time in Rome for monumental architecture.[85] Many of them probably remained in Rome and, as we have seen, slighter evidence of their intrusion is still to be found in the later Hadrianeum. In the latter building, however, the ornament has become much more Roman in spirit; and although many of the distinctive features in the profiling of these entablatures continue to influence Roman architecture in subsequent times, ornamental motifs in pure Asiatic style occur only on the two buildings that we consider to be directly the work of Asiatic craftsmen.[86]

It is idle to speculate too far on the personal influence of the Emperor Hadrian on the architectural design of the Temple of Venus and Rome, but we may be certain that Hadrian, who was himself an enthusiastic architect and had studied so much building in the Roman Empire, was responsible for the introduction of this foreign style into Athens and Rome. In this connection, the story told by Dio (LXIX, 4), although obviously, in part, a piece of scandal, is interesting. Dio records that Hadrian's dislike of the architect Apollodorus came to a head when the Emperor submitted to him his design for the Temple of Venus and Rome, and that as a result of the latter's unfavourable criticism he had him banished and later put to death. What is certain is that the Augustan Revival style, which we have associated with Apollodorus, comes to an end about the middle of Hadrian's reign, and that the later buildings are decorated in a completely different style. We may suggest that Hadrian, who had already decided on the construction of the temple at the beginning of his reign,[87] brought back from his first visit to the East a plan based on the Trajaneum at Pergamon, and that the break with Apollodorus induced him to bring from Pergamon an architect to supervise the construction and craftsmen to execute the ornament.

Perhaps the most interesting corroborative evidence for the presence of foreign craftsmen in Rome comes from Ostia, where throughout the first century A.D. decorative styles had been closely dependent upon those of the capital. The Temple of Rome and Augustus is decorated in the manner of a later Augustan building in Rome; the Temple of the Round Altar, though apparently Trajanic in date, has fine Flavian ornamental work and, as we have seen, the Capitolium is one of the most important examples of the Augustan Revival style in the earlier Hadrianic period. The decoration of the Forum Baths, which most probably date to the reign of Antoninus Pius, is carved, as is the work in Rome, in Proconnesian marble. The motifs employed present a curious mixture. The sima ornament recalls that of the cavetto above the frieze re-used in the Lateran Baptistery, the plain, very strongly projecting corona is another late Hadrianic feature; the ovolo derives from the Augustan Revival form; the arch-and-rings motif between the dentils, and the cyma reversa decoration on the architrave (also divided into two fasciae) are Flavian features. This curious mixture of styles and the oddity of the carving of a number of these motifs can best be explained by presuming the presence of foreign craftsmen borrowing motifs from a Roman repertory with which they were

[85] For the identification of this and other marbles I am indebted to the Director of the British School and to Michael Ballance. The marble of Proconnesus was used in the fourth century B.C. according to Vitruvius (II, 8, 10) and Pliny (XXXVI, 47) for the palace of Mausolus at Halicarnassus; it was extensively used in the Roman period and is still quarried to-day. It was extremely popular in Rome during the later second century.

[86] I know only one other example of the pure Asiatic cymation in Rome on an architectural fragment; it is now in the Magazzini of the Forum of Trajan, but its provenience is uncertain.

[87] See above, p. 122.

extremely ill-acquainted. The same conclusion is suggested by the carving of the Frigidarium capitals, which belong to a type with characteristic features admirably illustrated by the capitals of the Pergamene Trajaneum (pl. XXXV, *e*). These features are the deeply cut midrib of the principal lobes of the acanthus leaves, the deeply concave, pointed lesser lobes, and the small, plain *cauliculi*, from which issue the angle and inner volutes. The carving is quite distinctive, and we find it not only on normal Corinthian capitals of this period but also on those of 'flute-and-acanthus' type, of which there are a number of examples in Rome [88] and which is certainly of eastern origin; it occurs also on the fine series of capitals in the Lateran Museum, believed to derive from the Forum of Trajan, among which are two pilaster capitals of the type used in the Mausoleum of Hadrian (for the origin and distribution of this type see Appendix I).[89]

Although the peculiarly Asiatic carving of decorative motifs was short-lived in Rome and is found only in the Temple of Venus and Rome and the Mausoleum of Hadrian, many of the new features in the profiling of the entablatures frequently occur in later marble architecture in the capital. The period when their influence was greatest is, unfortunately, one of the worst documented in the history of Roman architecture. Very little has survived to us from the comparatively few large monuments erected or restored in the period that intervened between the extensive building programmes of the reigns of Hadrian and Antoninus Pius and the 'renaissance' under the Severans. We have no architectural fragments from the Triumphal Arches of Lucius Verus and Marcus Aurelius, from Commodus' Temple of Marcus Aurelius, or from the Thermae Commodianae; and although many pieces may be assigned to this period on grounds of style, their precise dating within it is impossible (see Appendix II). One of the most important buildings of this period, however, the so-called 'Temple of Serapis' on the Quirinal,[90] erected probably in the reign of Marcus Aurelius, had an entablature, the profiling of which continues the style of the late Hadrianic period; it is obviously later than the Hadrianeum, but the carving of the decoration on the front of the gable, which is much superior to that on the side, is of a quality that precludes a date later than *c.* 160–70. Two fragmentary consoles, one in S. Maria Antica and the other near the 'Temple of Romulus' on the Via Sacra, derive from two different cornices that are similar in style and proportions to the cornice in Via delle Tre Pile, but seem to be rather later in date. The Codex Destailleur Polotzoff contains a drawing (Cod. A. f. 52) of a richly decorated entablature of this type; and a fragment in the Magazzini of the Antiquario Comunale provides one of the rare examples of the continued use of the triple architrave crowning.

Apart from entablatures that carry on in detail the late Hadrianic style, many, certainly dating from the later second century, owe some important features of their profiling and ornament to the same source. An architrave in the peristyle of the Domus

[88] This type of capital is discussed by J. B. Ward Perkins in 'Severan Art and Architecture at Lepcis Magna', *JRS* xxxviii, 1948, pp. 67–70. The 'flute-and-acanthus' form seems to be Asiatic, and a number of examples in Athens are probably imported.

[89] A fine example of this type of leaf carving occurs on a capital in the south exedra of the Forum of Augustus, which may be evidence for the Hadrianic restoration mentioned in S.H.A., *vit. Hadr.* 19. 10.

[90] The fragments from the colossal entablature in the garden of the Villa Colonna (Toebelmann, pl. XII and pp. 73–84) belonged to the south angle of the pediment over the rear (west) wall of the building and remained standing until 1630 (Lanciani, *Storia degli Scavi*, ii, p. 250). M. Santangelo ('Il Quirinale nell'Antichità Classica', *Mem. Pont. Accad. Rom. Arch.* v, 1941, pp. 154–77) summarises earlier controversy and argues for Lanciani's identification with Aurelian's Temple of the Sun (*contra*, Kähler in *Röm. Mitt.* lii, 1937, pp. 94–105); but the dating of the fragments to the later third century is impossible.

Flavia has its main face profiled and ornamented in the same manner as the architrave of the square base of the Mausoleum,[91] and the two-fascia scheme on both its faces; another fragment, now by the Via del Teatro di Marcello,[92] combines a decorated convex frieze with an architrave in two fasciae divided by a cyma reversa (type C) and dates to the later second century. Similar in style, but perhaps a little earlier, are the fragments in the Lateran Hospital,[93] on which we find a decorated convex frieze, an architrave in two fasciae and a cornice with a number of peculiarly second-century features. Other important pieces are the frieze and architrave fragments re-used in the Triumphal Arch and as door jambs in the main entrance to S. Maria in Trastevere; the frieze has a convex profile and the architrave is divided into two fasciae.[94] The grooving on the face of the beads and the astragal mouldings suggests that the pieces are contemporary with the 'Temple of Serapis', where this curious feature is also found. One very interesting cornice, cut up to provide modillions in the nave of the church, has normal scroll consoles, but the crowning of egg-and-tongue and the projection of the corona in front of the consoles are features derived from the later Hadrianic style; its date is probably *c.* A.D. 160. The 'Arco di Portogallo', whether or not it was a late construction, had, according to the best detailed drawing,[95] a complete entablature of later second-century date with a convex frieze and an architrave in two fasciae. (See also Appendix II.)

Outside Rome, at Palestrina,[96] we find a convex frieze together with an architrave divided into two fasciae by a cyma reversa (type B) and crowned by three decorated mouldings, a cavetto, an ovolo, and an astragal; and a fragment at Aquileia,[97] with a frieze of figured scroll and an architrave with three crowning mouldings suggests that some of the peculiar features introduced in the later Hadrianic period were widespread in Italy during the later second century. In Ostia, apart from the Forum Baths, a fragment from the Collegiate Temple (early in the reign of Marcus Aurelius?) has an architrave divided into two fasciae with a leaf-and-tongue cyma reversa crowning of a type that occurs first on the entablature of the Hadrianeum; somewhat earlier (probably still in the reign of Antoninus Pius) is another large two-fascia architrave on the podium of the Round Temple.[98]

In the Severan period, for the heavy programme of building and reconstruction undertaken by Septimius Severus and Caracalla, buildings were decorated in a variety of earlier ornamental styles. The imitation of Flavian motifs in this period has already been studied in detail; other buildings owe many features of their decoration to the Augustan revival style, and some continue the pure second-century tradition. The

[91] A rare mid-second century fragment on the Palatine; as evidence of its imitation from Castel Sant'Angelo one notes especially the curious angular ovolo moulding at the base of the architrave which is found only on these two fragments.

[92] *Bull. Com.* lxvii, 1939, p. 202, figs. 11 and 12.

[93] For the building to which these fragments belong see Colini, *Storia e Topografia del Celio*, pp. 322–7. He dates them much too late (early fourth century).

[94] The fragments in the Triumphal Arch were assigned by Hülsen (*Diss. Pont. Accad.* 2, xi, 1914, p. 174) to the 'Arco di Portogallo'; they certainly belong with the fragments in the entrance. The entablature is illustrated by Stucchi (*Bull. Com.* lxxiii, 1950, p. 119, fig. 15), who rejects Hülsen's view. The cornice (late third century) certainly does not belong with the frieze and the architrave.

[95] Stucchi *art. cit.* reproduces the drawing in pl. IV; fragments of the entablature seem to have been re-used later in the Triumphal Arch of old S. Paolo fuori le mura (*ibid.*, pp. 119–21) and are now lost.

[96] In the courtyard by the Grotto delle Sorti.

[97] Mentioned by J. M. C. Toynbee and J. B. Ward Perkins, 'Peopled Scrolls', *PBSR* xviii, 1950, p. 22.

[98] This may have been another work of Asiatic craftsmen; for a comparison between the plan of the Temple and that of the Round Temple to Asklepios Soter in Pergamon see *Abh. preuss. Akad. Wiss.*, 1932, p. 30.

Arch of the Argentarii,[99] a typically 'Flavian' monument, has in its main entablature a convex frieze and an architrave divided into two fasciae, and the same features occur on a fragment of the same date and style set in the base of the monument to Cola di Rienzo on the Capitol. The Arch of Septimius Severus, the decoration of which derives inspiration mainly from the Augustan revival, has peculiarly second-century features in the two-fascia arrangement of the architrave of the main order, in the triple crowning of the frame of the main arch, and in a number of the decorative motifs. The second order of the Septizonium,[100] as it is shown in a number of Renaissance drawings, combined with a convex frieze a two-fascia architrave divided by a cyma reversa, and it had the sima of the cornice divided from the corona by an ovolo moulding.

In the later third century architectural ornament continued to be imitated from that of earlier buildings. The decoration of the Baths of Alexander Severus is early Flavian in style,[101] that of the Aurelianic 'Temple of the Sun' derives from the Baths of Caracalla.[102] The Basilica Nova, erected after Maxentius' reconstruction of the Temple of Venus and Rome, has one entablature that is directly copied from the Temple,[103] and the entablatures of the main hall include a number of motifs imitated from the decoration of the same building (for example, the triple crowning of the architrave, the palmette decoration of the sima, and the ovolo crowning for the consoles). The popularity in this period of the convex frieze, which is found both on the Janus Arch in the Forum Boarium [104] and in the Mausoleum of Constantina,[105] does not seem to be due to imitation of the late Hadrianic buildings but to new influences from the East, considerable evidence of which is to be seen in the decoration of the Arch of Constantine, and which probably reached Rome through Dalmatia at this time. After the Constantinian period the custom of using spoils from earlier buildings, already started under Maxentius and Constantine, becomes universal and the creative tradition of architectural ornament dies out.

Finally, in the revival of Roman architecture during the Quattrocento, buildings in the late Hadrianic style were studied, together with the other monuments of ancient Rome. In earlier Renaissance work, where delicate ornament and slender form were favoured, the influence of our type of entablature was small; but later, in the period of more literal imitation of antique forms, Palladio seems to have been particularly impressed by the severe design and massive forms of the 'Temple of Serapis' and the Hadrianeum, which he had studied in some detail; [106] and he adopted their profiling widely in his own buildings. We find it used, for example, in the church of the Redentore in Venice and in a large number of buildings designed by him and by Scamozzi in Vicenza.[107]

[99] See von Blanckenhagen's discussion of the ornament (pp. 90–2); also Toebelmann, pp. 88–96, and most recently M. Pallotino, *L'Arco degli Argentarii*, Rome, 1946, esp. pp. 57–72.

[100] T. Dombart, *Das Palatinische Septizonium zu Rom*, Munich, 1922, pp. 111–12, fig. 31; also Ch. Hülsen, 'Septizonium', in *Zeitschrift für Geschichte der Architektur*, 1911–12, fig. 5.

[101] A fragment of cornice from this building was found in Piazza S. Luigi de' Francesi in 1934 (*Bull. Com.* lxii, 1934 (Notiziario), p. 171); a large group of fragments in the same style are in the Museo Chiaramonti of the Vatican.

[102] Kähler, *Röm. Mitt.* lii, 1937, p. 94. Toebelmann, pp. 108–12, pl. XVII.

[103] Toebelmann, fig. 96 and pl. XXII; it is copied in detail from the entablature now in the Antiquario Forense (pl. XXXII, *a*).

[104] *ibid.*, pp. 131–5, and pl. XXIII.

[105] *ibid.*, pp. 136–40, and pl. XXIV.

[106] A. Palladio, *I Quattro Libri dell'Architettura*, Venice, 1581, iv, p. 47 (Serapis) and 60 (Hadrianeum).

[107] R. Pane, *Andrea Palladio*, Turin, 1948, pl. CX; see also the entablature in the façade of S. Giorgio Maggiore (pl. CIV), closely imitated from the Hadrianeum.

This brief account of the subsequent history of the late Hadrianic type of entablature and of some of the peculiar features in its profiling and ornament omits much that deserves full and detailed study. It is, however, quite clear that many of the forms introduced to Rome at that time were taken into the Roman repertory and that, combined with earlier ornamental styles, they contributed to the eclectic and imitative decoration of subsequent periods. The origin of this style has been traced back to Asia Minor; and it reached Rome through the work of an architect, probably Pergamene in origin, brought to the capital to supervise the work on the most important temple erected there at that time. We have attributed the ornament of that temple and of the later Mausoleum of Hadrian to a group of craftsmen who accompanied this architect to Rome. The presence of monuments at Athens built in a similar style attests the widespread [108] influence of the flourishing Asiatic architectural tradition in our period. The evidence is sufficient to show that we are not dealing here merely with the transmission of designs and plans, which we must suppose to have gone on throughout the history of Roman architecture, but with the actual migration of architects and craftsmen. Their presence in Rome during the most prosperous period of the Roman Empire is perhaps the most convincing indication that we have of the immense contribution made by the eastern Roman world to the architecture of the capital, an influence which has already been traced in many other branches of Roman art. It is significant, too, that the severe and cold monumental style, which could not hold its own for long against the native Roman taste for elaborate ornament, seems to have been introduced through the personal influence of the Emperor Hadrian; and this gives us a more precise picture of the Emperor as an architect than we can gain from the confusion of styles represented in his Villa at Tivoli. The importance of the late Hadrianic buildings as a document for the art-history of the Roman Empire cannot be over-estimated. They were, perhaps, the last original contribution to monumental architectural ornament in Rome, and their study is vital for the comprehension of the style of later buildings.

APPENDIX I. THE DECORATION OF THE SQUARE BASE OF THE MAUSOLEUM OF HADRIAN

In the Codex Escurialensis there is a drawing (f. 30 verso), of the later fifteenth century,[109] showing Castel Sant'Angelo seen from the West; at the south-west angle of the square base it shows part of the ancient decoration still *in situ*; above the wall-facing on the west side it shows a stretch of the frieze and architrave; and over the angle-pilaster, apparently, the complete entablature survived. There is a replica of this drawing in the sketch-book of Giuliano da Sangallo (*Cod. Vat. Barb. Lat.* f. 37 verso).[110] The Codex Escurialensis also contains (f. 25) a reconstruction of the decoration at the south-

[108] In North Africa Asiatics were certainly very active from the middle of the second century A.D. onwards; for their work at Lepcis see, for example, M. Squarciapino, *La Scuola di Afrodisia*, Rome, 1943, chap. IV, and J. B. Ward Perkins in *JRS* xxxviii, 1948, pp. 59–80. One building in Tripoli, the Temple near the Arch of Marcus Aurelius (*Africa Italiana* vii, 1940, pp. 35–45) has a number of features in its profiling and decoration (e.g. corona projecting in front of rectangular consoles in two fasciae, palmette ornament on the sima, egg-and-tongue and bead-and-reel between sima and corona) in common with the late Hadrianic group; it was erected in the reign of Commodus.

[109] On the date of the Codex Escurialensis see H. Egger, *Codex Escurialensis* (*Sonderschriften des Österreichischen Archäologischen Instituts* iv, Vienna, 1906), pp. 45–6.

[110] On the probable original of these drawings, Egger, *op. cit.*, pp. 15 ff., Ch. Hülsen, *Il Libro di Giuliano da Sangallo*, Leipzig, 1910, pp. xxxii–iii, and id., 'Escurialensis und Sangallo' in *JhÖAI* xiii, 1910, p. 224.

west angle, certainly copied from an original based on the surviving fragment; this drawing suggests that the cornice over the angle pilaster lacked its sima (see below) but that otherwise the entablature at this point was complete. A second view of the Castello in the Codex Escurialensis (f. 26 verso) must be somewhat later, though still earlier than *c.* 1494;[111] more of the decoration is shown on the south side, but that at the angle has now disappeared. Of this south-side decoration a fragment remained *in situ*[112] until 1579, when it was demolished by Gregory XIII; it consisted then of some of the wall-facing, and the frieze and architrave above.[113]

Between 1504 and 1507[114] Giuliano da Sangallo made a detailed study of the wall-facing, architrave, and frieze on the south side, and to complete his version of the entablature (*Cod. Vat. Barb. Lat.* ff. 37v, 38) took the cornice from an earlier drawing,[115] presumably made when the south-west angle decoration still remained *in situ*. Sangallo copied only the measurements and none of the decoration, but a second drawing by an anonymous architect of the sixteenth century (Uffizi Arch. 4330 recto) (pl. XXXIII, *a*),[116] who took the complete entablature from the same source, shows that the common original of these drawings contained, in addition, fine and accurate detail of the ornament. Another drawing of the complete entablature of the square base is contained in the Coner sketch-book (Ashby, *PBSR* ii, pl. 96); it is sketchy and inaccurate, but seems to have been copied directly or indirectly from the same source as Sangallo and Uffizi Arch. 4330 recto.[117] Apart from this series of drawings of the complete entablature, we possess a number of detail drawings of the angle-pilaster capital (see below), a good set of details of the surviving decoration on the south side drawn by Giovanni Alberti in 1579,[118] and in Uffizi Arch. 4330 verso (pl. XXXIV) a study on a smaller scale of the wall-facing and that part of the entablature which survived on the south side, together with a rough reconstruction of the south-west angle probably based on earlier drawings.

In fig. 6 I have attempted a reconstruction of the entablature of the square base, making use of these drawings and of surviving fragments. As it is shown in Uffizi Arch. 4330 recto, the architrave is divided into two fasciae by a cyma reversa (type B) and crowned by an egg-and-dart and a bead-and-reel; the frieze is left plain, although its decoration is shown in the smaller-scale drawing of the south side on 4330 verso, and it is crowned by an egg-and-dart and a bead-and-reel; the cornice has dentils, cyma reversa (type B), a plain corona, egg-and-dart, and a decorated sima with crowning fillet.

Of this entablature the only fragment so far identified with certainty is a stretch of the architrave in Castel Sant'Angelo (opposite the Museo Romano) (pl. XXXIII, *d*),

[111] i.e. earlier than the reconstruction of Castel Sant'-Angelo undertaken by Alexander VI in 1492–96 (Borgatti, pp. 224–54). There is a replica in *Cod. Vat. Barb. Lat.* f. 34v. If the author of the original was again Ghirlandaio, it may have been drawn during his second visit to Rome (1481–82), and the original of Escurialensis 30v. and Sangallo 37v. during his first visit in 1475.

[112] It is so described by Bernardo Gamucci, *Libri Quattro dell'Antichità della citta di Roma*, Venice, 1565, iv, p. 188.

[113] Giovanni Alberti's drawings and description in the unpublished *Codex Borgo San Sepolcro* (see below) are contemporary with the demolition.

[114] For the date, Hülsen, *op. cit.*, pp. xxvii–xxviii.

[115] The cornice and upper mouldings of the frieze are certainly copied, as is clear from the different system of measurements used, and from the completely different rendering of the ornament.

[116] Bartoli, iv, pl. CCCLV, fig. 620. The measurements for the cornice agree exactly with Sangallo f. 38. This architect, who studied the frieze, architrave and wall-facing on the south side (Arch. 4330 verso) seems to have altered the measurements for the upper mouldings of the frieze, since these do not agree with Sangallo's. We cannot know who was responsible for the original drawing; it may have been Antonio da Sangallo the elder, who worked on the Castello between 1492 and 1495.

[117] For Coner's use of the same sources as Giuliano da Sangallo see Ashby, *PBSR* ii, pp. 8–9.

[118] *Codex Borgo San Sepolcro* B, ff. 33 verso and 34 (now in the Gabinetto Nazionale delle Stampe, *F.N.* 15948). See also Lanciani, *Storia degli Scavi di Roma* iv, 57.

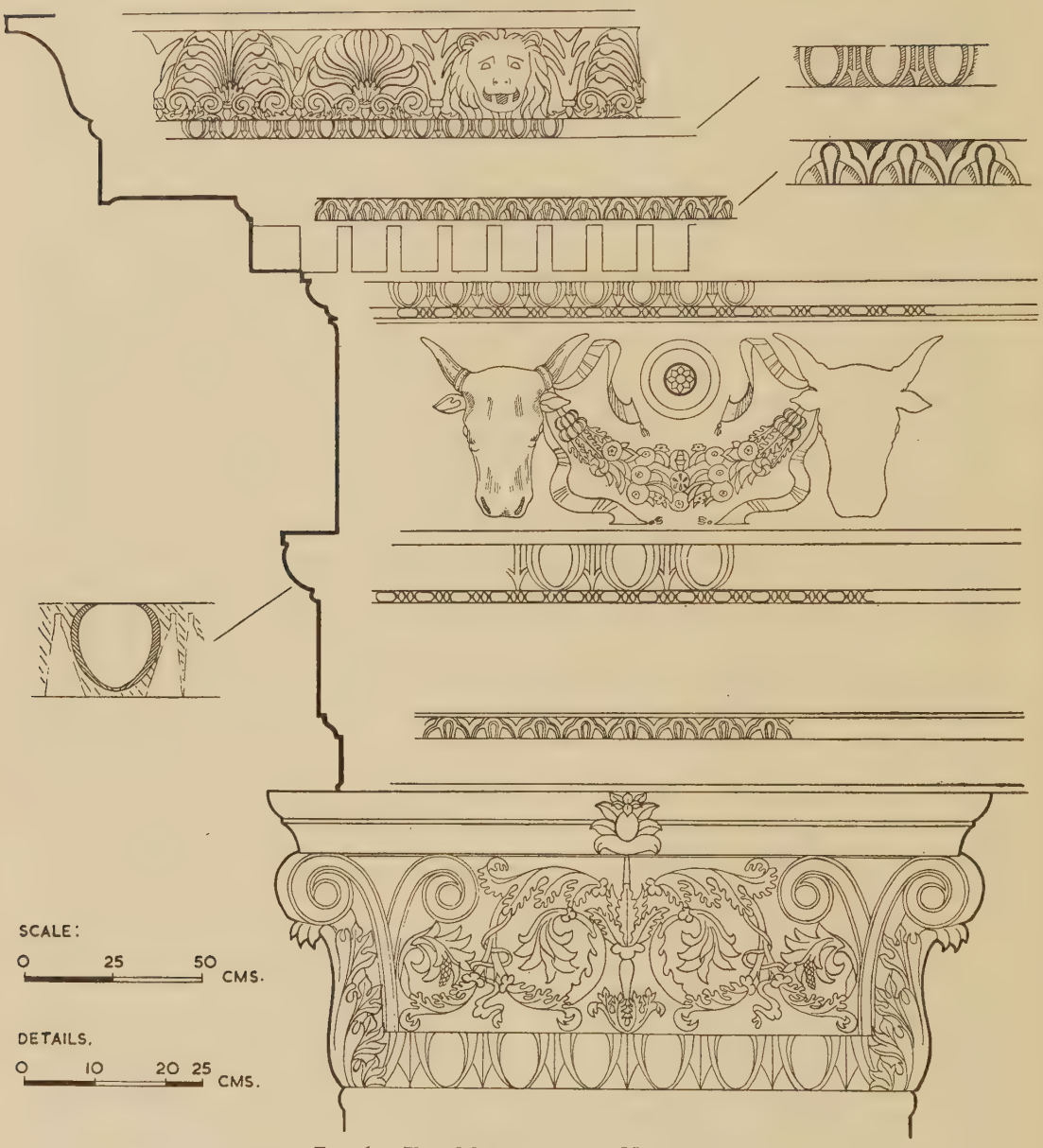

FIG. 6.—THE MAUSOLEUM OF HADRIAN.
Reconstructed drawing of the entablature of the square base.

and we may add, certainly, a small fragment of the cyma reversa moulding below the corona with the upper parts of some of the dentils (in the Museo Romano of the Castel Sant'Angelo, pl. XXXIII, *c*). Hitherto no fragments of the upper mouldings of the cornice have been recognised; as they are shown in Arch. 4330 recto, the crowning fillet measured [119] *c.* 15 cm. (5 soldi plus 5), the sima *c.* 28 cm. (10 soldi plus 2), the ovolo 5·4 cm. (2 soldi), the corona *c.* 19 cm. (7 soldi). The fillet measurement is obviously much too great; it may be a mistake in copying, or (more probably) it includes the height of the low 'attic' which is shown, for example, in *Cod. Esc.* 25 verso, above the sima. The sima decoration is shown with a design of widely spaced lotiform and fan palmettes (a very similar design appears in Coner's drawing).

In the shop front of No. 61, Via del Banco di Santo Spirito, supported on three mediaeval Ionic columns, is a length (*c.* 6·80 m.) of the upper mouldings of a large cornice (pl. XXXIII, *b*). The corona, which is plain, is now 17 cm. high, but it has been cut flat on the underside so that we must add 2 or 3 cm. to this measurement for the usual overhang of the corona below the soffit; the egg-and-dart dividing the sima from the corona has a vertical height of 5 cm.; the vertical height of the sima, which is decorated with a design of linked lotiform and fan palmettes, is *c.* 28 cm. and the crowning fillet is now 4 cm. high. Except for the height of the fillet, these measurements correspond closely with the drawings; the notable difference is in the decorative scheme of the sima, where, instead of the widely spaced lotiform and fan palmettes of the drawing, we find the palmettes closely set together and, in addition, lions' heads at intervals. However, the additional fact that a small fragment with the distinctive leaves of one of the open-fan palmettes still exists in the Museo Romano of Castel Sant'Angelo, makes the attribution of this piece to the square base of the Mausoleum unquestionable. The different decoration of the sima in the drawings and on this fragment can be explained, if we suppose that when the original drawing was made none of the sima survived *in situ* (as is, indeed, suggested by *Cod. Esc.* f. 25v., where the sima is left plain and a non-existent fillet inserted above the egg-and-dart), and that it was either reconstructed from a few small fragments preserving parts of the palmettes or was completely invented by the architect.

With the new fragment, we can reconstruct the square-base entablature almost entirely. In the attempted reconstruction in fig. 6 the cyma reversa below the corona is drawn from the fragment in the Museo Romano of Castel Sant'Angelo, which also preserves the upper part of two dentils, and the length of the dentils is taken from Sangallo f. 38v. The measurements and decoration of the architrave are obtained from the large fragment in Castel Sant'Angelo and the reconstruction of the crowning ovolo from G. Alberti's full-scale drawing in *Cod. Borgo San Sepolcro*. The reconstruction of the frieze is more problematic. Pseudo-Coner, in the only careful part of his drawing, shows it decorated with bulls' heads and garlands, the latter surmounted by paterae; the same design appears in the smaller drawing of Arch. 4330 verso, and G. Alberti draws a section of this frieze and a large-scale detail of it together with the crowning mouldings; all these drawings seem to have been taken from the decoration on the south side.[120] On

[119] The soldo used in these drawings = 2·72 cm.

[120] The decoration on this side is described by Gamucci (*loc. cit.*) as 'una antica pariete di marmo, nella quale si vede un gran pezzo di fregio con teste di bue e festoni con il suo architrave . . .'

the other hand, G. da Sangallo (in a rough sketch f. 17 verso)[121] and *Cod. Esc.* 25 verso both show bukrania on the frieze, and not bulls' heads; and a number of fifteenth-century representations of the Mausoleum reconstruct the frieze with bukrania supporting the garlands. It is hardly conceivable that on the west side (as shown in *Cod. Esc.* 25v) there were bukrania and on the south side bulls' heads, and it is far more probable that the drawings which show bukrania are careless, or misinterpretations of original drawings. The measurements given in the drawings for the frieze with its upper mouldings vary only slightly; Uffizi Arch. 4330 recto has 66·7 cm., Sangallo *c.* 70 cm., and G. Alberti 66·9 cm.

The large fragment of frieze decorated with bulls' heads and garlands, the latter surmounted by a pair of shields, which was discovered near Castel Sant'Angelo in October 1891,[122] has been assigned to the square base on the assumption that it was originally flat and that its present curved face and other reworked parts (e.g., the upper and lower mouldings) are the result of its later re-use in Alexander VI's bridgehead tower.[123] This identification[124] is impossible because the measurements (e.g., height and distance between bulls' heads) are considerably greater than those given in the drawings, and none of them shows shields above the garlands. On the other hand, a fragment of bull's head in the Museo Romano of Castel Sant'Angelo[125] is of smaller size (height of bull's head—42 cm.) and must derive from a smaller frieze of similar type, and a fragment of garland with leaves and fruit, also in the Museum, may well belong to the same frieze. In the reconstruction in fig. 6, I have made use of this smaller bull's head, which is very like that shown in the drawings, and have taken the height of the frieze from Sangallo, the form of the garland and patera from G. Alberti and Coner, and the crowning mouldings from G. Alberti's details.

The larger frieze almost certainly also belonged to some part of the decoration of Castel Sant'Angelo,[126] and the presence of two different friezes with bulls' heads and garlands in the decoration of the Mausoleum is suggested by two fifteenth-century reconstructions of the monument. Filarete (between 1439 and 1445), on the bronze door of S. Pietro, shows a smaller frieze of bulls' heads and garlands on the square base and a larger frieze on the drum of the monument,[127] and Fra Giocondo in a drawing in *Cod. Destailleur-Polotzoff* shows a frieze of bulls' heads and garlands in the upper part of the drum. Filarete's version of the marble facing on the square base is careful, and he may well have based his reconstruction on fragments of two different friezes, one larger and curved, the other smaller and flat, which survived to his day.[128]

In the reconstruction of the capital of the angle-pilaster I have made use of a number

[121] This seems to be an early sketch by Giuliano (Hülsen, *op. cit.*, p. xxvii, dates it between 1485 and 1488); it is inaccurate and most probably copied.

[122] L. Borsari, *Not. Scavi*, 1892, pp. 425–7. Well illustrated in Gusman, *L'Art décoratif de Rome*, pl. 176, 1.

[123] Borsari, *loc. cit.*

[124] It was rightly rejected by Hülsen in Jordan, *Topographie der Stadt Rom* i (3), p. 666, n. 116.

[125] Reproduced in Borgatti (1890), pl. 9a.

[126] The bull's head is not unlike the smaller bull's head in the Museo Romano, and the garland is similar to that shown in Coner's and Alberti's drawings. Another section of this frieze must have existed in the early seventeenth century, and was imitated by Alessandro Algardi in the south façade of the Villa Doria Pamphili, built between 1644 and 1647 (see *Zeitschrift für Geschichte der Architektur* iv, 1910–11, pp. 51–60).

[127] See M. Lazzarini and A. Muñoz, *Filarete, Scultore ed Architetto del Secolo XV*, Rome, 1908, pl. III; reproduced in Borgatti, fig. 21.

[128] On the larger frieze fragment there is definite evidence of later re-cutting, and it was most probably re-used in Alexander VI's tower. It is impossible to tell whether it was originally curved or flat, but the former seems more probable. One fragment, certainly, from the bridgehead tower (Borgatti, fig. 85), is Renaissance work; the decoration was cut flat when the fragment was re-used after the demolition of the tower.

of drawings and of examples of similar capitals elsewhere. The largest scale drawing of this angle capital is by G. da Sangallo (*Cod. Vat. Barb. Lat.* f. 9) with the legend *chapitelo di chastelo S. Agniolo al pilastro.* The Taccuino Senese of Sangallo has a variant on it (f. 36).[129] Uffizi Arch. 4330 recto is clearly from the same source as Sangallo f. 9. Bramante [130] and Pseudo-Coner probably derive from a different original; and the two variants, which differ in the positioning of the ovolo ornament and the type of the rosettes, most probably show different faces of the angle pilaster; and both types are used in the tomb to Cardinal Pietro Riario in SS. Apostoli,[131] which may well derive from a study of the Castel Sant'Angelo capital when it was still *in situ.* The capital is of a type common in late Hadrianic and Antonine buildings;[132] there are examples from Hadrian's gate at Athens,[133] from the second-century reconstruction of the Odeion of Agrippa,[134] and from the Triumphal Arches at Eleusis. A number have been found in Asia Minor, among them the group of figured capitals from Heraclea-on-Marmara in the Istanbul Museum; [135] three fragments of similar pilaster capitals are in the Magazzini of Villa Adriana, and three in Sir John Soane's Museum, London, probably derive from the same source. The angle-pilaster capital, now in the Museo Romano, which was found near Castel Sant'Angelo,[136] has been assigned to the square base; [137] but it is impossible to reject the very positive evidence of the drawings as to the form of the angle capital. This surviving capital, which is of the type discussed by Ronczewski,[138] probably did not belong to an exterior architectural order (similarly designed capitals are used, for example, in the interior decoration of the Basilica Aemilia), and its date may well be considerably pre-Hadrianic.

APPENDIX II. ARCHITECTURAL ORNAMENT IN THE LATER SECOND CENTURY

The Severan age in Rome brought with it an extensive programme of building and reconstruction. The list of monuments erected or restored under Septimius Severus and Caracalla forms an impressive catalogue, which almost rivals those of Augustus and Domitian. In architectural ornament the prevailing taste of the time was, certainly, for the rich, heavily ornamented buildings of the Flavian period; but it is a mistake to dignify the close imitation of Flavian motifs which is apparent in so much Severan work with the title of 'Flavian Renaissance'.[139] We have already observed something of the imitative and eclectic nature of Roman ornament during the Hadrianic and early Antonine period, and in the face of Severan monuments in quite different styles, it is

[129] R. Falb, *Il Taccuino Senese di Giuliano da Sangallo*, Siena, 1902.

[130] Uffizi Arch. 1711 (Bartoli, i, XXIV).

[131] It was completed in 1477. See G. S. Davies, *Renascence, The Sculptured Tombs of the Fifteenth Century in Rome*, London, 1910, fig. 35.

[132] See K. Ronczewski, *Variantes des Chapiteaux Romains* (extract from the *Annals of the University of Latvia* viii, 1922), p. 156, figs. 44–7.

[133] Stuart and Revett, iii, 1794, chap. iii, pls. VI–VIII.

[134] *Hesperia* xix, 1950, pl. 74.

[135] Mendel, *Catalogue*, iii, 547–9. The exported form of this capital is fairly standardised; a number of individual variants upon it from Asia Minor, dating to the Hadrianic period, suggest that the type originated there. See, for example, the capitals in the Temple of Zeus and the Theatre at Aezani (Ch. Texier, *Description de l'Asie Mineure*, i, pls. 32 and 47). Two pilaster capitals in the Lateran Museum (see above, p. 139) have distinctive Asiatic leaf-carving and are probably the earliest examples of the type in Italy.

[136] Gusman, *op. cit.* iii, pl. 177.

[137] E.g. by Borgatti, p. 31. It was once in the Museo Nazionale delle Terme, and is now in Castel Sant'Angelo.

[138] *Arch. Anz.* 1934, cols. 17–50.

[139] von Blanckenhagen, pp. 90–9.

better to consider the Flavian element as merely one instance of the almost universal copying of earlier monuments which went on from Hadrianic times onwards.

The term 'Renaissance' tends to suggest a preceding period of poverty and decline, whereas the evidence that we have, though the lack of dated monuments obscures the fact, indicates that in the Antonine period there did exist a definite style of ornament, and clear signs of it are still to be seen in much Severan work. It is the purpose of this Appendix to study briefly some of the characteristics of the later second-century ornamental style, though it does not claim to establish absolute rules for the dating of fragments in this period, when precision depends to a great extent on personal judgement as to the quality of workmanship and on other subjective criteria which are so liable to be at fault.

The following notes on ornamental forms are drawn from a study of surviving fragments, some of which are discussed in greater detail below.

Sima. Almost always decorated. Out of a variety of motifs, one of the most popular is a form of leaf-and-tongue ornament, the better carved examples of which are characteristic of second-century work. Good earlier examples of it can be seen on the inner faces of the Hadrianeum architrave (pl. XXXI, *d*) and the architrave in Via delle Tre Pile (cf. pl. XXXVII, *b*, another fragment now in the Vatican, see n. 143); later, on the framing of the main passage (south side) in the Arch of Septimius Severus. Various other decorative motifs are used, e.g. anthemia in acanthus foliage and a variety of leaf and scroll designs.

Corona. The face of the corona is almost invariably plain; not infrequently the soffit only is decorated, and for this purpose a number of motifs are used—fluting, overlapping leaves, acanthus anthemia.

Bead-and-Reel. Normally a heavy form, with long, angular oval bead, pointed at the ends and connected by short stringing to reels consisting of a pair of lozenge-shaped discs. For a good earlier example, see that on the cornice of the Hadrianeum (pl. XXXI, *a*); and for the end of the period, the architrave in Via del Teatro di Marcello (p. 140). Occasionally, earlier forms, such as the Flavian 'cotton reel' motif, are imitated.

Ovolo. The Hadrianic egg-and-tongue form is more usual, but the egg-and-dart is also frequently found. A general characteristic of both forms is the splayed appearance of the casing, which is mainly produced by the very squat, angular profile, which curves back very sharply below; the casing is normally channelled, and disappears at the apex of the egg. Good examples of the form and profiling of the egg-and-tongue can be seen on an architrave fragment in the peristyle of the Domus Flavia (pl. XXXVII, *c*), and on a fragment of richly decorated cornice in the Presbytery of S. Lorenzo fuori-le-Mura; [140] of the egg-and-dart, on the cornice of the Hadrianeum (pl. XXXI, *a*), on the architrave in Via delle Tre Pile, and on a group of fragments of frieze-with-architrave in the Lateran Museum (pl. XXXVII, *d*).

Dentils. The Flavian arch-and-rings motif (occasionally rings alone) is frequently found (e.g., on a cornice in the garden of the Antiquario Comunale (see below) and a fragment in Sir John Soane's Museum, London); there are also examples of the use of the Hadrianic bar between the dentils (e.g., fragments in the façade of the 'Tomb of S. Urbano' on the Via Appia).

Cyma Reversa (type B). On larger mouldings the Hadrianic 'ringed tulip' form is generally adopted, often with leaf or rosette or other pendants. The profile is characteristic, the convex part of the ogee curve being short and the profile curving back sharply below; good earlier examples can be seen on the Domus Flavia architrave, on some fragments of acanthus scroll frieze-with-architrave in the presbytery of S. Lorenzo (pl. XXXVII, *e*) and, towards the end of the period, on a decorated block in the Piazza of the Forum Romanum [141] and on a fragment of architrave near the Domus Liviae (north side) on the Palatine. In these examples the arch is deeply channelled, the legs are widely set, and the upper arch is cut across. Smaller examples are of poor quality; the plain tulip is proportionately very small and often has a drill-hole just below the opening; the legs of the arch are again widely set, and the upper arch is usually cut across. For this smaller form, see examples on the inner face of the Hadrianeum architrave (pl. XXXI, *d*), on the

[140] H. Strack, *Baudenkmäler des alten Rom*, Berlin, 1890, pl. 36.

[141] *ibid.*, pl. 2 (shown in bottom right corner).

Domus Flavia architrave (pl. XXXVII, *c*), and on a fragment of inscribed frieze-with-architrave by the Via Sacra opposite the Temple of Romulus.

Cyma Reversa (type C). Always deeply and sharply cut; the form is generally like that on the Tre Pile cornice (pl. XXXI, *b*), or on the main cornice of the Arch of Septimius Severus. Frequently, the moulding is very squat and the upper part of the motif is cut off, as, for example, on the fragment in Via del Teatro di Marcello, or on a fragment of architrave soffit, decorated with guilloche ornament, that is now set up on one of the pillars of the Basilica Julia.

Cyma Reversa (type D). Not common in this period; when found it usually adopts the form with low-relief tongue illustrated in fig. 1. It is always deeply carved and strongly drilled; the leaves that form the motif are rather broad and have wide, deep mid-rib channels.[142] An early example is that on the cornice re-used in the façade of the Lateran Baptistery; and, at the end of the period, on a group of cornice fragments on the Rostra, and on the cornice of the *scaenae frons* in the Theatre at Ostia.

Other characteristics. The deep and sharp cutting that is to be noted in the cyma reversa ornaments types C and D is a general characteristic of the carving of motifs in this period, and produces a strong black-and-white effect. The effects of drill work are allowed to remain more obvious, especially in smaller leaf mouldings; the small ovolo of pendant leaves, which is especially popular in this period, illustrates this feature well (see the examples on the inner face and soffit of the architrave in Via delle Tre Pile (e.g. pl. XXXVII, *b*),[143] and on a fragment of console cornice in the Piazza of the Roman Forum in front of the Temple of Castor). The acanthus anthemia are usually well carved; the foliage is heavier and the connecting scrolls more upright than in earlier examples of this motif (see, for example, the anthemia on the cornice in S. Lorenzo and on the passage cornice of the Arch of Septimius Severus). A number of new motifs seem to have been developed; one, which is subsequently very popular, is a derivative of the acanthus anthemion with leaf-bearded heads and scrolls and occurs first on the architrave of the 'Temple of Serapis'.[144] The leaf-and-scroll design adopted on the passage cornice of the Arch of Septimius Severus occurs on a number of fragments in Rome and Ostia of second-century date and does not seem to have been used earlier.

Architectural ornament in the period of the Antonines carries on the same eclectic style as we have noted in a number of entablatures belonging to the late Hadrianic period. Two cornice fragments in the Stadium of the Palatine, although they probably belong to the Severan reconstruction, illustrate the period admirably. The first,[145] the cornice of a small pediment, has its sima decorated with a design of linked acanthus palmettes very similar to that on the Tre Pile cornice. The sima is divided from the corona by a cyma reversa (type B), in which the wide-set, channelled arches, cut across above, the small, roughly carved tulip, and the sharply curving profile are characteristic of the earlier period; the corona is completely plain, the egg-and-tongue derives from the Hadrianic form but has the splayed casing and profile of post-Hadrianic ovolos, and the dentils have a pair of rings in the interstices. The second cornice[146] has the characteristic leaf-and-tongue ornament on the sima, which is divided from the corona by a heavy bead-and-reel. The face of the corona is plain, and the underside is decorated with acanthus anthemion. The ovolo has the egg-and-dart form, the dentils have arch-and-rings in the interstices, and the cyma reversa has the Hadrianic 'ringed tulip' form with pendants of alternate leaf and rosettes.

Many of the decorative features that occur in these two entablatures may be traced in examples belonging to the later second century. For example, a small cornice re-used in the façade of the Lateran Baptistery, which probably dates to the reign of Antoninus Pius, has its sima, decorated with a Flavian type anthemion, divided from the corona by

[142] A very elaborate example with unusually broad leaves occurs on the cornice of the Temple of Serapis (Toebelmann, p. 79, fig. 66).

[143] There is a fragment of the same architrave in the Magazzini of the Vatican. Only the rear face survives.

[144] Toebelmann, p. 81, fig. 68.

[145] von Blanckenhagen, pl. 30, fig. 84.

[146] *ibid.*, pl. 31, fig. 85.

a cyma reversa (type D) with characteristic deep cutting; the corona is plain, the dentils have arch-and-rings, and the cyma recta below has a leaf-and-palmette motif not unlike that on the cornice of the Temple of Antoninus and Faustina. A fragment of a large cornice which lies near the 'Temple of Romulus' has plain corona, bead-and-reel imitating the Flavian form (see fig. 1), but betrays its later second-century date in the forms of the ovolo decoration. Another fragment belonging to a large cornice crowned by an attic, now in the garden of the Antiquario Comunale, has a plain corona, above which is a characteristic second-century leaf-and-tongue, an ovolo of Hadrianic type with splayed casing, dentils with rings, and a cyma reversa with a leaf-and-acorn ornament, the carving of which must date it to about the third quarter of the century. The Lateran Hospital cornice (see above, p. 140) has its sima decorated with the same leaf-and-tongue ornament, the corona is plain on its face and decorated on its underside with a design of overlapping leaves, the egg-and-tongue is again a derivate of the Hadrianic form with sharp profile and splayed casing.

The little sepulchral temple from Torrenova on the Via Casilina, the façade of which is reconstructed in the Museo Nazionale, probably dates to the last quarter of the second century; it has the same type of leaf ornament on the sima, a characteristic second-century ovolo, and a cyma reversa (type B) of Hadrianic form, and it provides us with one of the rare examples in this period of a corona decorated both on its face and its underside. Very similar in style is a group of cornice fragments among the pieces reused in the Presbytery of S. Lorenzo. A fragment of cornice in the Nympheum of the Villa of the Quintilii on the Via Appia adopts as sima decoration the Flavian dolphin motif, and has plain corona, a good example of the later second-century type of egg-and-tongue, and a row of very small dentils (another not uncommon characteristic of cornices belonging to this period; cf. the S. Lorenzo cornice). A group of inscribed cornice fragments lying behind the Curia [147] imitate in detail a Hadrianic cornice of the type illustrated by the fragments in the Piazza d'Oro of Hadrian's Villa at Tivoli (see p. 120); this particular group probably belongs to the early third century; but a very similar copied cornice set in the wall of the 'Tomb of S. Urbano' on the Via Appia is probably of second-century date, to judge from the markedly superior carving of the decorative forms.

A very fine example of a complete entablature of later second-century date is drawn by Anon. Destailleur as belonging to the Arco di Portogallo (see above, p. 140). The architrave is in two fasciae, the frieze is convex and decorated with acanthus scroll-work, and the cornice has acanthus anthemion on the sima, a plain corona, ovolo of Hadrianic type and dentils with arch-and-rings. Another entablature, drawn by Andreas Coner,[148] of which a fragment still exists in Sir John Soane's Museum, has leaf-and-tongue ornament on the sima, corona decorated only on its underside (with fluting), and dentils with arch and rings. Another complete entablature of later second-century date is drawn in Codex Borgo San Sepolcro (A. f.37 verso) and seems to have been found near S. Croce in Gerusalemme; here the sima is decorated with leaf-and-scroll design (*cf.* the motif on the passage cornice of the Arch of Septimius Severus) and is divided from the plain corona by an ovolo moulding with leaf ornament; the egg-and-tongue is clearly of Hadrianic form and the dentils have arch-and-rings.

[147] *Bull. Com.* lxxiii, 1949–50, pp. 80–3.

[148] *PBSR* ii, 1904, pl. 106.

These observations on the style of ornament in the Antonine period do not apply to smaller decorative work; in the latter the ornament is generally carved in low relief and Flavian type motifs predominate. The problems of dating are even more complex; as examples of the type of work we may take a large group of fragments now in the Piscina of the Baths of Diocletian,[149] and several fragments in similar style in the garden of the Antiquario Comunale (e.g. pl. XXXVII, *a*).[150] Very much the same style of ornament is to be found on the large cornice fragment on the site of the 'Arcus Domitiani' spanning the Clivus Palatinus, which must also belong to the second half of the second century.

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[149] Found in Trastevere in 1912.

[150] The Temple of Vesta in the Roman Forum has ornament which compares more closely with second-century work imitating the Flavian style than with 'Flavian Renaissance' work. Its reconstruction must belong to the very earliest years of the reign of Septimius Severus.

THE PORTICOES OF METELLUS AND OCTAVIA AND THEIR TWO TEMPLES

A Re-examination of the Texts

In the Via del Portico d'Ottavia at Rome, close by the Theatre of Marcellus, there still stands the propylaeum of the *Porticus Octaviae*, from which the street took its name.[1] The inscription on the architrave records the restoration of the building by Septimus Severus and Caracalla in A.D. 203, but passes over in silence the previous history of the site. For that we are dependent largely on literary sources, chief among which is a passage of Velleius Paterculus, in which he records the building-activities of Q. Caecilius Metellus Macedonicus (cos. 143, censor 131 B.C.), the conqueror of Andriscus: *Hic est Metellus Macedonicus, qui porticus, quae fuerunt circumdatae duabus aedibus sine inscriptione positis, quae nunc Octaviae porticibus ambiuntur, fecerat, quique hanc turmam statuarum equestrium quae frontem aedium spectant, hodieque maximum ornamentum eius loci, ex Macedonia detulit. . . . Hic idem primus omnium Romae aedem ex marmore in iis ipsis monumentis molitus ⟨huius⟩ vel magnificentiae vel luxuriae princeps fuit.*[2]

Velleius' statement, that the site of the *Porticus Octaviae* had formerly been occupied by a Porticus erected by Metellus, is clear, and adequately confirmed elsewhere.[3] Less clear is what he says about the two temples, which we know from other evidence to have been dedicated to Juppiter Stator and Juno Regina.[4] It is generally assumed that, in the second sentence quoted from Velleius, *aedem* refers to one or both of them; and consequently Metellus is generally credited with the erection of one or both.[5] But, while the most familiar use of *aedes* (sing.) is of a 'temple' of the conventional type, the word could, in this passage, be intended to mean the Porticus. Varro uses the phrase *in aede Catuli* in reference to a building that Cicero calls the *porticus Catuli*;[6] he uses *aedem deum consentium*[7] of the structure below the Tabularium, which is now, in its surviving form, known as the *Porticus Deum Consentium*. Again, Pliny, in a sentence that is clearly derived from Varro, seems to use the actual phrase *Metelli aedes* (sing.) of the Porticus of Metellus itself: Pasiteles *Iovem fecit eboreum in Metelli aede, qua Campus petitur.*[8] (The words *qua Campus petitur*—meaning, presumably, 'on the path which led through the Porta Car-

[1] Illustrated in Lugli, *Roma Antica: Il Centro Monumentale* (1946), pp. 562 ff.; see also Marchetti-Longhi in *Rend. Pont. Acc. Arch.* XX (1943–4), p. 86.

[2] Velleius I, 11, 3 ff., ⟨*huius*⟩ inserted by Ruhnken; *cf.* Livy 6, 4, 12.

[3] See e.g. Pliny 34, 31 (a statue of Cornelia erected 'in Metelli publica porticu, quae statua nunc est in Octaviae operibus').

[4] See passages cited in n. 10. For *Regina* as the cult-title of Juno in her temple in the Porticus, see pp. 154 f.

[5] See e.g. Platner-Ashby, p. 304; Lugli, *op. cit.* p. 565; Castagnoli in *Mem. Acc. Linc.* 8, I (1948), pp. 164, 166. Platner-Ashby, *l.c.*, after referring to Velleius, cite as further justification for ascribing the temple of Juppiter to Metellus 'aedes Iovis Metellina (Festus 363)' (*sic*). As the page-reference shows, they are using Müller's 1839 ed. of Festus. The correct reading is *in aede Iovis Metellinae* (sc. *porticus*, which was frequently omitted): see Lindsay's ed. (Teubner (1913), p. 496; *Gloss. Lat.* IV, p. 451). Castagnoli, *l.c.*, still quotes the text in Müller's version (as given by Platner-Ashby).

[6] Varro, *R.R.* 3, 5, 12 f.; Cicero, *de domo* 102, 114, 116; *ad Att.* 4, 2, 5. I hope to discuss this question in greater detail elsewhere.

[7] Varro, *de L.L.* 8, 71.

[8] Pliny 36, 40. In the last sentence of section 40 Pliny clearly indicates that his knowledge of Pasiteles is entirely second-hand. He has cited Varro by name just before the words quoted, and does so again a few lines below. Varro is likewise his authority on Pasiteles in the very similar context 35, 155 f.

mentalis and the Forum Holitorium to the Campus'[9]—indicate that the reference is to the complex of buildings which we are considering.) Here the locating of the *Metelli aedes* by the words *qua Campus petitur*, without mention of the Porticus, suggests that Pliny is, in fact, referring to the Porticus itself, not to the enclosed temple of Juppiter—it would be unnatural in indicating the position of the latter not to mention the Porticus

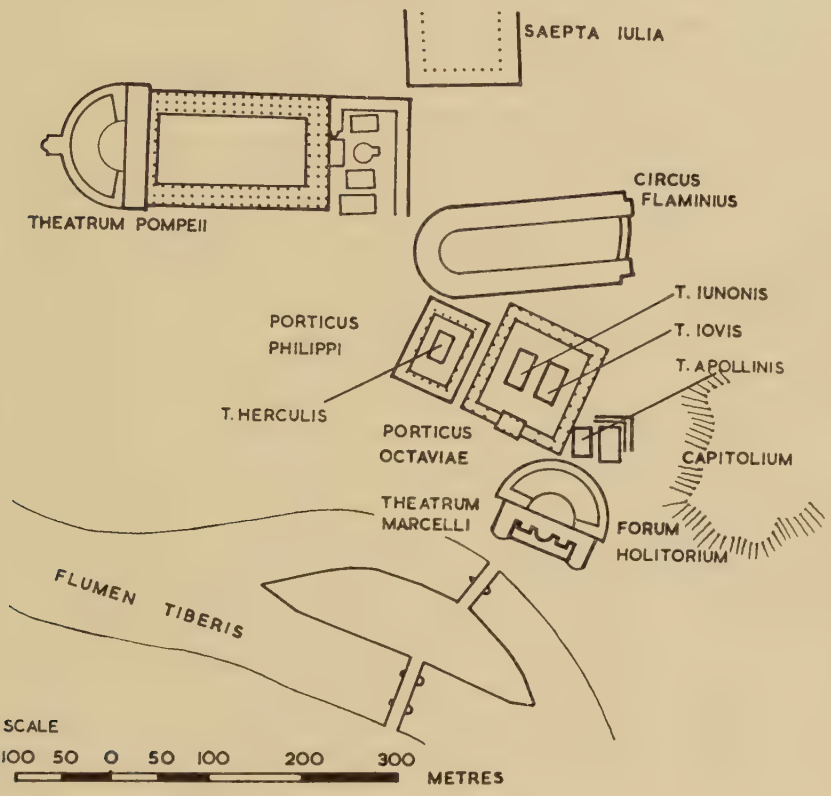

FIG. 1.

which enclosed it.[10] This interpretation is confirmed by what we know of the statuary in the temple of Juppiter: Pliny elsewhere implies that in his time it contained only one statue of Juppiter, the cult-statue, made, presumably for the temple, by Dionysius and Polycles (who were active at a date earlier than that of Pasiteles, sculptor of the *Iuppiter eboreus*).[11]

[9] *Cf.* Asconius, *in or. in tog. cand.*, p. 90 (81) (of the temple of Apollo which abutted on the Porticus).

[10] *Cf.* Vitruvius 3, 2, 5 'in porticu Metelli Iovis Statoris'; Festus *l.c.* (n. 5); Pliny 36, 35 'intra Octaviae vero porticus aedem Iunonis'; 36, 24 'intra Octaviae porticus in Iunonis aede'. Varro himself did, however, elsewhere refer to the position of the temple of Juppiter, without explicitly mentioning the Porticus: 'Varro libro octavo rerum divinarum delubrum ait alios aestimare in quo praeter aedem sit area adsumpta deum causa, ut est in circo Flaminio Iovis Statoris' (Macrobius 3, 4, 1; *cf.* Servius auctus, *Aen.* 2, 225). There he was presumably treating the *area*, and the *porticus* which bounded it, as parts of the *delubrum*, and for that reason made no explicit mention of the Porticus, *cf.* App. Prob. (*Gramm. Lat.* (ed. H. Keil) iv, 202): '"delubra" vero aream cum porticibus demonstrat.'

[11] Pliny 36, 35: 'intra Octaviae vero porticus aedem Iunonis ipsam deam Dionysius et Polycles aliam . . . idem Polycles et Dionysius, Timarchidis filii, Iovem, qui

So far, then, as the usage of *aedes* (sing.) is concerned, Velleius' phrase *aedem ex marmore* could be intended to refer to the Porticus, rather than to one of the temples. That it is, in fact, so intended, is shown by an examination of the context. (1) If the *aedem ex marmore* is the Porticus, then Velleius in the second sentence repeats the ascription of the Porticus already made in the first; but, if the *aedem ex marmore* were one of the temples, Velleius would, in the second sentence, be ascribing to Metellus a temple of whose builder he seems in the first sentence to be ignorant. (2) *Ipsis* in the second sentence—*in iis ipsis monumentis*—is appropriate to emphasise the identity of the no-longer-extant Porticus with the *monumenta* ascribed to Metellus in the first sentence; but it would be otiose, if the *aedem ex marmore* were one of the still-extant temples. (3) While it is natural to find Metellus accused of being 'the originator of the present magnificence or luxury', on the ground that he had built a Porticus of marble, it would be somewhat surprising to find him so accused on the ground that he had built a *temple* of marble.[12] (4) In a comparable passage at the beginning of his second book, Velleius cites Metellus' building of his *porticus* as an instance of the *publica magnificentia* which was followed by *privata luxuria*.[13] The *aedem ex marmore* which in the first book made him 'the originator of the present magnificence or luxury' must be the same building.

Velleius, then, contrary to the received opinion, does not ascribe either of the two temples in the Porticus to Metellus—or, indeed, to anyone else. From Obsequens, however, we learn that in 152 B.C., some years before the probable date of Metellus' erection of his Porticus, an *aedes Iovis* already existed somewhere in the Campus.[14] Obsequens does not give the cult-title, but there is a distinct possibility that this is the temple of Juppiter Stator, subsequently enclosed in the Porticus; the only other known sanctuary of Juppiter to which he might be referring is that of Juppiter Fulgur, and that was probably not an *aedes* of the usual sort.[15] If the temple of Juppiter Stator was already in existence in 152 B.C., it was probably not built by Metellus, whose building-activities would most likely follow his triumph in 146 B.C. The architect we know to have been Hermodorus of Salamis,[16] whose activities are roughly dated by the fact that he was also architect of the temple of Mars dedicated by Brutus Callaicus, who was consul in 138 B.C.[17]

The temple of Juno that was enclosed in Metellus' Porticus was that of Juno Regina, dedicated by the censor M. Aemilius Lepidus in 179 B.C. Livy locates Lepidus' temple *in circo Flaminio*, by which he must mean 'in the area immediately surrounding the struc-

est in proxima aede, fecerunt'. For the dating of Dionysius and Polycles, see p. 156. Pliny says that Pasiteles was active 'Magni Pompei aetate' and that he received the citizenship in 90 or 89 B.C. (33, 130, 156; 36, 40).

Pace Brunn (*Gr. Künstler* i, pp. 415 ff.) and Lippold (*Handbuch d. Arch.*, Lfg. 5, p. 367, n. 1; but see *R.-E.* xviii. 4, 2087, 54), the mention of the Porticus of *Octavia* in Pliny 36, 35 (above) shows that Pliny's statements there, if not the result of his own observation, at least come from a source later than Octavia's reconstruction—thus making it impossible to suppose that Pasiteles' statue replaced that of Dionysius and Polycles as the cult-statue of Juppiter at the time of the reconstruction.

[12] *Cf.* Sallust., *Bell. Cat.* 9, 2.

[13] 2, 1, 2.

[14] Obsequens 18: 'turbinis vi in Campo columna ante aedem Iovis decussa'.

[15] See Vitruvius 1, 2, 5: 'Iovi Fulguri et Caelo et Soli et Lunae aedificia sub divo hypaethraque constituentur'. For temples of Juppiter at Rome, see Platner-Ashby, s.v.; Wissowa, *Rel. u. Kultus der Römer*[2] (1912), pp. 594 ff. There was probably only one sanctuary of Juppiter Fulgur there (*cf.* Aust in Roscher, *Lexikon* ii, 656; Wissowa, *op. cit.* pp. 121 f.).

[16] Vitruvius 3, 2, 5 (*H* reads *hermodi*, but no *Hermod(i)us* is otherwise known; *Hermodori* is Turnebus' emendation).

[17] Nepos ap. Priscian 8, 17, p. 383, 4H: 'Aedis Martis est in circo Flaminio architectata ab Hermodoro Salaminio'; see also Pliny 36, 26; Brunn, *Gr. Künstler* ii, p. 241.

ture known as the Circus Flaminius', an area that also contained the temple of Apollo.[18] But this is precisely where the Porticus of Metellus and its temples lay—between the temple of Apollo and the Circus.[19] The dedication of the temple was celebrated with *ludi scenici*,[20] which presumably took place in the *theatrum et proscenium ad Apollinis*, which Lepidus himself erected, in the immediate neighbourhood, in the same year.[21] The day of dedication was probably 23rd December, since the Fasti Antiates Veteres, of the first half of the first century B.C., mark that day as the anniversary of the temple of Juno Regina *in Campo*[22] (and also of that of Diana *in Campo*, presumably the temple that Lepidus dedicated at the same time as that of Juno Regina).[23] Immediately beside the temple of Juno, M. Fulvius Nobilior, who was Lepidus' colleague in the censorship, built a temple of Hercules Musarum—probably also in 179 B.C.[24] The *porticus inter aedem Iunonis Reginae et Fortunae* in the Circus Flaminius, which, according to Obsequens 16, was struck by lightning in 156 B.C., may have been a Porticus erected by Fulvius in connection with this temple.[25]

The date at which Metellus enclosed the temples of Juppiter Stator and Juno Regina in his Porticus is uncertain. It was almost certainly after his triumph in 146 B.C., but presumably not long after, since one of the probable reasons for the building of the Porticus was to provide a site for the twenty-five[26] equestrian statues of the *turma Alexandri*, which Metellus brought to Rome after the reduction of Macedonia. Velleius purports to give the date of the erection at the beginning of his second book, when he says that the porticoes of Scipio Nasica, of Metellus and of Octavius were all erected *remoto Carthaginis metu sublataque imperii aemula*, which ought to mean that all three were

[18] Livy 40, 52, 2 f., *cf.* 39, 2, 11; 3, 54, 15; 63, 7; Acta Lud. Saec. (*CIL* vi, 32323) 156, where the 'Circus Flaminius' clearly does not include the Theatre of Pompey. In the fourth-century Regionaries 'Circus Flaminius' is the name given to the whole of Augustus' IXth Region: Jordan, *Top.* ii, p. 554). For the location of the temple of Apollo, see e.g. Lugli, *op. cit.* pp. 536 ff.; Platner-Ashby, s.v.; for attempts to duplicate it, see du Jardin in *Rend. Pont. Acc. Arch.* viii (1931–2), pp. 57 ff.; Marchetti-Longhi, *ibid.* xx (1943–4), pp. 387 ff.

[19] It has been customary to distinguish between Lepidus' temple of Juno and that in the Porticus. For example, Becker (*Röm. Alt.* i, p. 618), wrongly assuming that Obsequens 16 ('porticus inter aedem Iunonis Reginae et Fortunae') implies the existence of a temple of Fortuna *side-by-side* with Lepidus' temple, goes on to argue that there would not have been room for such a temple on either side of the temple of Juno subsequently enclosed in the Porticus of Metellus. Roscher (*Lexikon* ii, 1, 601, 603) wrongly inferred from Livy 40, 52, 1 ff. that Lepidus' temple of Juno must have been near a temple of Diana. (*cf.* also Richter, *Top.* ii, p. 218; Jordan-Hülsen, *Top.* i, 3, pp. 538 f.; Wissowa, *Rel. u. Kultus der Römer*[2] (1912), p. 190; Thulin in *R.-E.* x, 1120; Platner-Ashby, pp. 290, 304; Marchetti-Longhi, *op. cit.*, pp. 436 ff.). Lepidus' temple of Juno and that in the Porticus are identified by Aust, Lugli, and Castagnoli.

[20] Livy 40, 52, 2 f.

[21] Livy 40, 51, 3. The site of this (temporary) theatre would, in this reference to the contract for its erection, have to be indicated by the words *ad Apollinis*, rather than by *ad Iunonis*, because, at the time, the temple of Juno was not yet in existence or, at least, not dedicated.

[22] *Not. d. Scavi* (1921), p. 120: 'Dian(ae) Iunon(i) R(eginae) in Camp(o) Tempe(statibus)'; *cf.* Castagnoli in *Mem. Acc. Linc.* 8, i (1948), pp. 115, 165. I hope to discuss elsewhere the question of the relationship between the terms *in Campo* and *in Circo Flaminio* (or *ad Circum Flaminium*).

[23] See Livy 40, 52, 1 ff. This (with 39, 2, 8) is the only other record of a shrine of Diana in the IXth Region: see Platner-Ashby s.v. 'Diana'. The anniversary of the Lares Permarini, also dedicated by Lepidus in 179, was celebrated either one or two days before (*Fast. Praen.*; Macrobius 1, 10, 10; *Fast. Ant. Vet.*).

[24] Forma Urbis frg. 33; Eumenius, *pro instaurandis scholis* (*Panegyrici Latini* V) 7, 3; *cf.* Macrobius 1, 12, 16.

[25] See Livy 40, 51, 6, where Fulvius in 179 commissions a 'porticus . . . ad fanum Herculis'. It is natural to suppose that this *fanum Herculis* was his own temple of Hercules Musarum. Apart from this Porticus and the possible Porticus '⟨ad⟩ aedem Apollinis Medici' (Livy *ibid.*), we know of no Porticus in the neighbourhood of the Circus Flaminius in existence in 156, other than the Porticus Octavia (*sic*); and, if it had been this last which was struck by lightning, Obsequens would presumably have called it by its name. The temple of Fortuna mentioned by Obsequens is presumably that of Fortuna Equestris, dedicated by Q. Fulvius Flaccus in 173 B.C. (Livy 42, 3; 42, 10, 5) 'ad theatrum lapideum' (Vitruvius 3, 3, 2), which, *pace* Platner-Ashby, must be the Theatre of Marcellus, not that of Pompey—Vitruvius draws a sharp distinction between stone and marble (5, 5, 7; 5, 3, 3; *cf.* Pliny 36, 45; Isidorus, *Etym.* 16, 5, 1) and the theatre of Pompey was known as 'Theatrum marmoreum' (*Fast. Amit.* 12th Aug.) *cf.* Castagnoli, *op. cit.*, p. 167.

[26] Arrian, *Anabasis* 1, 16, 4.

erected after the destruction of Carthage in 146 B.C.; but Octavius presumably built his Porticus shortly after his triumph in 168 B.C., and Velleius himself elsewhere dates that of Scipio to his censorship in 159 B.C.[27]

At some uncertain date, cult-statues by Dionysius, son of Timarchides, and Polycles, probably brother of Dionysius, were put in the two temples, presumably at the same time.[28] The sculptors are probably to be identified with the Dionysius and Polycles whose names appear in the signature of the statue of C. Ofellius Ferus in the Agora of the Italians at Delos, the former as one of the sculptors, the latter as the father of the other.[29] Since the erection of this Agora is dated, from the prosopography of its inscriptions, to the end of the second or the beginning of the first century B.C.,[30] the cult-statues of the temples of Juppiter and Juno at Rome (presumably not the work of apprentices) are likely to have been carved substantially later than 146 B.C. They may, in fact, be connected with a later restoration of the two temples. But, if such a restoration did take place, the Fasti Antiates Veteres give no indication that it led to a re-dedication of either or both of the temples. The anniversaries of the temples of Juno Regina *in Campo* and of Diana *in Campo* are celebrated on 23rd December, without mention of Juppiter Stator. The latter had an anniversary on 5th September, and, since this is not the anniversary of the Palatine Juppiter Stator,[31] there is a *prima facie* case for treating it as the anniversary of the temple in the Porticus.

The *Porticus Metelli* was still standing at the time when Vitruvius was writing the *de architectura*,[32] after Octavian had, in 27 B.C., received the title of Augustus. It is true that Dio says that the *Porticus Octaviae*, which replaced it, was built out of the spoils of the Dalmatians, subdued in 33 B.C.; but he may well have fallen into the easy confusion between the *Porticus Octaviae* and the *Porticus Octavia* (rebuilt by Octavian, but originally built by the Cn. Octavius who defeated Perseus in 168 B.C.).[33] The new Porticus, built in the name of Octavia, enclosed, in addition to the two temples, a *Schola* or *Curia Octaviae* [34] and a Library, possibly contained in the *Schola*. The Library had a Greek as well as a Latin section, each of them with its own superintendent (*vilicus*).[35] The *Schola*, as its alternative name, *Curia*, indicates, could be used for meetings of the Senate; and it was so used on at least one occasion, in 7 B.C.[36] A substantial reconstruction of the two temples probably accompanied the Augustan work on the site. At any rate, an early imperial calendar fragment, which puts the anniversaries of both

[27] Velleius 2, 1, 1 f.; 2, 3, 1. Modern authorities give dates ranging from 149 to 146 B.C. for the building-activities—real or alleged—of Metellus. None of these have any solid basis. 149 B.C., which Roscher (*Lexikon* ii, 1, 603) gives for the temple of Juno and which Castagnoli (*op. cit.*, p. 164) gives for the temple of Juppiter and for the Porticus, is based on a misunderstanding of Velleius' use of the pluperfect *fecerat* in the passage quoted above, from which it is inferred that Metellus' building-activities had preceded his defeat of Andriscus in 148. In reality, the pluperfect is used with reference to *fuerunt circumdatae* (for which *cf.* Pliny 36, 39 (*sitae fuere*) together with 34, 69). It is noticeable that when Velleius speaks of Metellus' transportation of the equestrian statues, which were still *in situ*, he changes to the perfect *detulit*.

[28] See n. 11 (*Idem Polycles et Dionysius* is found only in the Bambergensis).

[29] Διονύσιος Τιμαρχίδου καὶ Τιμαρχίδης Πολυκλέους Ἀθηναῖοι ἐποίησαν (quoted here from Robert in *Hermes* xix (1886), p. 304); *cf.* Lippold, *op. cit.* (n. 11), pp. 366 ff.

[30] Hatzfeld in *B.C.H.* xxxvi (1912), pp. 110 ff.

[31] Which was, in the time of Ovid (*Fasti* 6, 793 f.), 27th June. Since there is no evidence of an Augustan restoration of the Palatine temple, this was presumably its anniversary under the republic as well.

[32] See Vitruvius 3, 2, 5. For the date of the *de architectura*, see 5, 1, 7 ('pronaus aedis Augusti'); *cf.* also Pellatti in *Atti del III Congresso di St. Rom.* i, pp. 48 ff.; *cf.* also n. 40.

[33] Dio 49, 43; *cf.* Festus 188 ('Octaviae porticus duae appellantur . . .'); also Jordan-Hülsen, *Top.* i, 3, p. 489 n. 51, p. 541. See also Velleius 2, 1, 2; *Res gestae* 19; Appian, *Ill.* 28.

[34] Pliny 35, 114; 36, 22; 36, 28 f.

[35] Plut., *Marc.* 30; Dio 49, 43; Suetonius, *de gram.* 21; and the inscriptions cited in n. 39.

[36] Dio 55, 8, 1; *cf.* Josephus, *B.J.* 7, 4.

temples on the same (unknown) day, indicates that one at least of them had been re-dedicated since the inscribing of the Fasti Antiates Veteres: *Apollini Laton(ae) ad Theatr(um) Marc(elli) Felicitati in Cam(po) Mart(io) Iovi Stator(i) Iun(oni) Reg(inae) ad cir(cum) Flam(inium)*. This fragment cannot have been inscribed until after the dedication of the Theatre of Marcellus in 13 or 11 B.C.[37]

To what extent Octavia was herself responsible for the work carried out in her name is not clear. Festus says that she built the Porticus, and Plutarch that she built the Library. But Dio says that Augustus built both, and Suetonius that the emperor built the Porticus and commissioned C. Melissus to organise the Library.[38] Yet, that the connection of Octavia with the buildings and, in particular, with the Library was more than nominal, is suggested by the fact that, in the early Empire, at least four employees in the Library were buried in the household-tomb of Marcella, Octavia's younger daughter, sister of Marcellus.[39] The Augustan work on the site was presumably substantially completed before the death of Octavia in 11 B.C., since both Porticus and Library could be ascribed to her. On the other hand, the assumption that it was completed soon after the death in 23 B.C. of Marcellus (in whose memory the Library is said by Plutarch to have been built) is baseless: the Theatre of Marcellus (begun by Julius Caesar before Marcellus was born, and still nameless at the time of the Secular Games in 17 B.C., six years after his death) was not finally dedicated until 13 or 11 B.C.[40]

The Elder Pliny ascribes the building of the two temples, as he knew them, to the—otherwise unknown— Laconian Saura and Batrachus, whom he includes in his catalogue of *marmorarii*.[41] Saura and Batrachus can at once be dismissed as aetiological figments, created to explain the lizard (σαύρα) and frog (βάτραχος) carved, so Pliny says, *in columnarum spiris*, but the inclusion of them among the *marmorarii* does seem to indicate that the temples in Pliny's day were, in some sense, of marble. This was, presumably, one of the features of the Augustan reconstruction.[42] It is true that Velleius alleges that Metellus' Porticus was already of marble—*ex marmore*—which ought to mean, and is generally taken to mean, 'of solid marble'.[43] But Velleius' statement is, in this respect, almost incredible. The use of marble as a building-material at Rome was not old. In 173 B.C. Q. Fulvius Flaccus had, indeed, intended to use marble tiles, removed from the temple of Juno Lacinia near Croton, on the roof of his temple of Fortuna Equestris,

[37] *CIL* i, pp. 252, 339. It is impossible to determine what the new anniversary was. There was an offering of some kind to Apollo 'ad theatrum Marcelli' on 23rd Sept. (*Fast. Arv.*), but it is open to question whether this celebrated the anniversary of the temple. On the same day there were offerings to Mars and Neptunus ('in Campo'), and it would be too much of a coincidence to have the anniversaries of temples of all three *Di Actiaci* (Suetonius, *Div. Aug.* 18, 2) occurring together on Augustus' birthday. For examples of offerings indicated in the Fasti in the form normally used for *natales*, but not in fact celebrating *natales*, see Wissowa, *Rel. u. Kultus der Römer*[2] (1912), p. 475, n. 1.

[38] Festus 188; Plut. *Marc.* 30; Dio 49, 43; Suetonius *Div. Aug.* 29, 4; *de gram.* 21.

[39] *CIL* vi, 4431–3; 4435; 4461. For other references to employees at the Porticus see *ibid.* 5192; 2348; 8708.

[40] Dio 43, 49, 2; 53, 30, 5; Acta Lud. Saec. (*CIL* vi, 32323) 156 ('(i)n thea(tro quod est) in circo Flaminio'); Dio 54, 26, 1 (13 B.C.); Pliny 8, 65 (11 B.C.). On the assumption that the Porticus of Octavia was erected soon after the death of Marcellus, it has been maintained that 23 B.C. is the approximate *terminus ante quem* for the composition of Vitruvius' *de architectura* (Degering in *Berliner Phil. Wochenschrift* (1907), 1374; Schanz-Hosius, *Röm. Lit.-Gesch.* ii, p. 388). But the assumption is, as indicated, without foundation.

[41] 36, 42 f.

[42] For surviving traces of marble-construction, see Lugli, *op. cit.* pp. 562 ff.

[43] Velleius, *l.c.* (p. 152); *cf.* Platner-Ashby p. 304 'a temple in Rome entirely of marble'; Aust in Roscher, *Lexikon* ii, 1, 684; Jordan-Hülsen, *Top.* iii, 1, pp. 538 f.; Tenney Frank in *C.A.H.* viii p. 385. Yet Virgil makes Aeneas emphasise, as something remarkable, the fact that the Palatine temple of Apollo was to be of solid marble (*Aen.* 6, 69 f.). Another Augustan temple of solid marble was that of Juppiter Tonans (Pliny 36, 50).

but the Senate had intervened;[44] and, in fact, the earliest instance that Pliny can find of the use of marble for building at Rome is when L. Crassus (cos. 95 B.C.) in his aedileship imported six Hymettian columns to adorn his stage, subsequently erecting them in the atrium of his house on the Palatine. At that time, says Pliny, there were not yet any marble columns on public buildings. The first example of marble walls (Pliny is uncertain whether they were of solid marble or merely covered with marble slabs) was the stage of M. Aemilius Scaurus in 58 B.C. The first private house to have its walls entirely covered with marble was that of Mamurra, built from the spoils of Gaul.[45] According to Pliny, then, the first building at Rome to have walls in any sense of marble, was a temporary structure erected in 58 B.C., and marble columns had first been used about 100 B.C. His authorities for the early use of marble cannot have included the Porticus of Metellus among their instances.[46] Moreover, when Velleius says that the Porticus was *ex marmore*, his phrase is, at best, second-hand, since he wrote nearly fifty years after the *Porticus Metelli* had been replaced by the *Porticus Octaviae*.[47] It may well be that his authority applied to the *Porticus Metelli* some such phrase as Ovid applies to its successor—*externo marmore dives opus*—by which Ovid presumably means that the *Porticus Octaviae* contained many imported marble-sculptures.[48] Such a phrase applied to the *Porticus Metelli* could easily have been misinterpreted by Velleius as meaning that the building itself was of marble.[49]

Linked with his ascription of the two temples to Saura and Batrachus, Pliny has a story that the temple of Juppiter had in fact, been intended for Juno and *vice versa*; but that the porters, when carrying in the statues, had put them in the wrong temples and they were allowed to stay there *velut ipsis diis sedem ita partitis*. He supports his story by stating that *in Iovis aede . . . pictura cultusque reliquus omnis femineis argumentis constat*. How far Pliny is speaking from personal observation, and how far his observation can be relied on, is unknown.[50] But, if there was a major incongruity in his day between the decoration and equipment of the temples and the deities worshipped in them, the error which gave rise to it presumably occurred at the time of the Augustan reconstruction. If so, it was subsequently put right, for the temple that served for Juppiter when Vitruvius wrote the *de architectura* had an *ambulatio circa cellam aedis*, and the Forma Urbis (dating, probably, from the time of Septimius Severus) represents the temple of Juppiter as having an *ambulatio* at the front and sides (and the temple of Juno as having none).[51]

[44] Livy 42, 3; Val. Max. 1, 1, 20.

[45] Pliny 36, 4–7; 17, 6; 36, 50, 114, 48. In the first passage, Pliny is speaking of the bringing in of marble by sea. For the bringing in by sea of the Carrara marble of Luna, the chief Italian marble used at Rome, see Strabo 5, 2, 5; *cf.* Blake, *Ancient Roman Construction*, Washington (1947), p. 53 and n. 23. In any case imported foreign marble was in use at Rome earlier than Italian marble (see Boethius in *Dragma Nilsson* (Acta Instituti Regni Sueciae ii, 1939), p. 129; *cf.* Ward Perkins in *J.R.S.* xli (1951), pp. 96 ff.).

[46] Pliny himself may have been vague about the history of the *Porticus Metelli* (e.g. in 34, 31 he speaks of a statue of Cornelia put up 'in Metelli publica porticu, quae statua nunc est in Octaviae operibus'), but Nepos, to whom Münzer (*Beiträge z. Quellenkritik der Naturgeschichte* (1897), pp. 327 ff.) ascribes the passages of Pliny quoted in note 45, was certainly acquainted with some of the work of Hermodorus, architect of the temple of Juppiter in the Porticus (see n. 17); and Varro, who heads the list of authorities in the index to book 36 of Pliny, was familiar with the Porticus itself (see *supra* pp. 152 f. and n. 10).

[47] He wrote his History for Vinicius, on his elevation to the consulship (A.D. 30).

[48] Ovid, *Ars Am.* 1, 70; *cf.* Pliny 34, 31; 35, 114, 139; 36, 15, 22, 24, 28 f., 35.

[49] For the *Porticus Metelli* as an 'Art Gallery', see Cic., *ii Verr.* 4, 126.

[50] *Cf.* n. 46.

[51] Vitruvius 3, 2, 5; Forma Urbis frg. 33 (*cf.* Aust in Roscher, *Lexikon* ii, 1, 685; Brunn, *Gr. Künstler* ii, p. 241). The Forma shows the temple of Juppiter to the right as one entered through the propylaeum.

In A.D. 80, the year after Pliny's death, the Porticus and its enclosed buildings, including that which contained the Library, were severely damaged in a disastrous fire.[52] They were probably restored by Domitian at the beginning of his reign.[53] If so, they had again to be restored, after a fire, by Septimius Severus and Caracalla in A.D. 203.

Of all the history of the site, the only item that is recorded in the surviving inscription is the last. Presumably the temples themselves originally bore inscriptions, which included at least the names of their dedicators. But any such inscriptions had disappeared by the time of Velleius, who refers to the temples as *sine inscriptione positae*. They may have been removed by Metellus, who perhaps included the name of Hermodorus, architect of the temple of Juppiter, in an inscription on his Porticus (Vitruvius knew who commissioned the Porticus and knew the architect of the temple of Juppiter, but did not know who commissioned that temple: he uses the phrase *in porticu Metelli Iovis Statoris Hermodori*). When the *Porticus Octaviae* replaced the *Porticus Metelli*, the old inscription would doubtless be replaced by a new one, recording only the benefaction of Octavia; and this in its turn was destined to be replaced by that which still records only the final restoration—*Imp. Caes. L. Septimius Severus . . . et* [*imp. Caes. M. Aureliu*]*s Antoninus . . . incendio corruptam restituerunt.*[54]

M. J. Boyd

The writer wishes to thank Mr. R. Meiggs, Mr. J. B. Ward Perkins, and Dr. S. Weinstock for their criticism and advice.

[52] Dio 66, 24 (the reference to the Library shows that the *Porticus Octaviae* and not the *Porticus Octavia* is intended).

[53] Suetonius, *Dom.* 20 (Domitian's restoration at the beginning of his reign of 'bibliothecas incendio absumptas').

[54] *CIL* vi, 1034. For parallels to the suggested history of the inscriptions, *cf.* the substitution of the name of Clodius for that of Catulus on the *porticus Catuli* (Cic., *de domo* 137); and the ascription of Fulvius Nobilior's temple of Hercules to Philippus, who had, in fact, erected a Porticus round it (Suetonius, *Div. Aug.* 29, 5; Ovid, *Fasti* 6, 802).

PAESTAN POST-SCRIPT

(Plate XXXVIII)

My Supplement[1] to *Paestan Pottery* was already in the press when, in the late summer of 1952, Dr. Sestieri began excavating in the vicinity of the so-called Temple of Poseidon at Paestum. An intensive campaign yielded a very rich harvest of finds, as well as providing clear evidence that the temple itself was part of a Sanctuary to Hera, which included a number of smaller temples and a long row of altars. Among the finds were several complete red-figure vases and an immense number of fragments which, with characteristic generosity, Dr. Sestieri allowed me to examine[2] in detail in the basement of the new museum recently opened on the site. Nearly all of them are Paestan and provide further confirmation for the location of the fabric at Paestum; pending a fuller publication of Sestieri's important discoveries, it seemed advisable to me to give a classified list of the most significant of the new pottery finds as soon as possible, adding a few comments on outstanding pieces. I take this opportunity also of making a few additions and corrections to the Catalogue on pp. 3–22 of the Supplement.

A. THE NEW FINDS

With the exception of a few fragments found during the earlier excavations at the Sanctuary of Hera Argeia near the mouth of the River Sele, most of the new material comes from a series of *loculi* in the immediate vicinity of the so-called Temple of Poseidon. Below are listed the vases and significant fragments that can be attributed to existing artists or workshops; they are all in the National Museum at Paestum.

Workshop of Asteas and Python

(i) *Asteas*

Lebetes gamikoi

NF 1. Case 33, from the area of *Loc.* IV. Ht. 28. (*a*) Judgment of Paris—Hera standing to left of Paris, who is seated on an Ionic capital with his dog beside him, while Hermes with winged sandals, petasos, and caduceus stands to right; (*b*) seated woman and Eros. On the shoulder are white palmettes; on the small *lebetes* attached to it, white heads. *AJA* 1953, p. 214.

In style this vase is most closely related to the hydria Brussels A813 (*PP*, no. 49, pl. XIa; *PPSupp.*, no. 61); on both, Paris and Hera wear almost identical drapery. It is perhaps significant that in this version of the Judgment scene Hera alone should appear to the exclusion of the other two goddesses. The very large number of *lebetes gamikoi* found in the recent excavations shows that they must have been a popular dedication in the sanctuary of the bride of Zeus.

NF 2. Fragment in the Basement, found to the north of *Loc.* IV. Two women standing beside a white laver. On the shoulder, white palmettes. For style, *cf.* Naples 2878 (*PP*, pl. XIb).

Fragments

NF 3. Case 44, from Temple B in the Temenos and from the area west of *Loc.* IV. (*a*) Woman wearing a black chiton with a red border, and Eros beside a white Ionic column; (*b*) figure with black chiton and foot

[1] *Papers of the British School at Rome*, xx, 1952, pp. 1–53.

[2] My thanks are due to Mr. John Cassels, Rome Scholar in Classical Studies, for his assistance in this connexion. A brief account of the excavations is given by A. W. Van Buren in *AJA* 1953, pp. 212–4.

on base of column to l.; youth with spear, chlamys and a red fillet; head of woman. From a large vase, perhaps an amphora.

(ii) *The Asteas Group*

Hydriai

NF 4. Case 33, from the area of *Loc.* IV. Ht. 45·5; recomposed from fragments. Youth with phiale and floral spray leaning against a white pillar, standing draped woman with mirror. Below the handles: large female heads. The main scene is framed between reserved bands, with the typical Paestan palmettes beside the handles.

NF 5. Basement, from the area north of *Loc.* IV, level 11. Woman with wreath and phiale at altar, youth with drapery over his left shoulder.

Lebetes gamikoi

NF 6. Case 33, from the area of *Loc.* IV. Ht. 14; handles restored. (*a*) Nude woman seated on square pillar and holding out phiale; (*b*) Eros walking to l. Very early.

NF 7. Case 33, from same area. Ht. 14·5; 19·5 with handles. (*a*) Youth leaning forward over raised foot, and standing draped woman with red fillet; (*b*) seated woman beside a laver, holding up a mirror; the lower part of her body is draped in a cloak with a dotted-stripe border. The scene on (*a*) is framed between reserved bands, with a triangular cross-piece in the top left-hand corner.

NF 8. Basement; fragments from the area north of *Loc.* IV, level 8. (*a*) Draped woman and woman wearing black drapery with a red border and a red head-band; (*b*) nude woman. Both scenes are framed between reserved bands.

NF 9. Case 45, small fragment from the Greek building near the Temenos. Woman with red drapery patterned with white dots beside laver.

Lids of lebetes gamikoi

NF 10. Basement; from the area north of *Loc.* IV, level 8. Ht. 12. Base—female heads; bowl—female heads.

NF 11. Basement; from same area. Ht. 9. Bowl—female heads.

NF 12. Basement; from same area. Ht. 8. Bowl—female heads.

Lekane lids

NF 13. Basement; from the area north of *Loc.* IV, level 10. Diam. 9·5. Lid only—female head: thrush.

NF 14. Basement; from same area. Lid with knob—diam. 9·5; ht. 10. On knob: female heads.

NF 15. Basement; from same area. Fragment of lid: female head.

NF 16. Basement; from same area, level 8. Lid—diam. 9. Female heads.

NF 17. Basement; from same area. Small fragment of lid: thrush.

NF 18. Basement; from same area, level 11. Fragment of lid: seated woman with drapery over lower limbs. Late.

Smaller fragments

NF 19. Small fragment of skyphos. Case 45, from the Greek building near the Temenos. Head and shoulders of bearded silen. Early.

NF 20. Fragment of lekythos. Basement; from the area south of the Basilica. The lower parts of two figures at an altar; that to l. is male, with embattled-pattern drapery.

NF 21. Fragment of cup. Case 44; from Temple B in the Temenos. I. r.f. laurel; A. upper part of woman.

NF 22. Basement; from the area west of *Loc.* IV. Female head.

NF 23. Basement; from same area. Male figure with drapery.

NF 24–5. Basement; from area north of *Loc.* IV. Two small fragments of good style—draped woman; drapery. For the drapery, *cf.* NF 1; these pieces might be by Asteas himself.

In addition to the above there are numerous fragments, representing various parts of the body, drapery, palmettes, etc., which belong to the Asteas Group.

Late Paestan

(i) *Group of Naples 1778*

Lebetes gamikoi

NF 26. Case 33; from the area of *Loc.* IV. Ht. 15·5; 24, incl. handles. (*a*) Young satyr in front of seated woman; (*b*) Eros and seated woman.

NF 27. Large fragment. Basement; from north of *Loc.* IV. Ht. 16. (*a*) Two nude women at a laver; (*b*) youth and woman.

NF 28. Case 33; from the area of *Loc.* IV. Ht. 15; 19·5, incl. handles. (*a*) Seated woman; (*b*) seated effeminate youth with skewer of fruit.

NF 29. Fragment. Basement; from the area north of *Loc.* IV. Seated and standing nude women at a laver.

Neck-amphora

NF 30. Large fragments. Basement; from area north of *Loc.* IV. (*a*) Youth with red ribbons at stele; (*b*) two draped youths with palmette between. *Cf.* Naples 1779, *PP*, no. 327, pl. XXXIVd; *PPSupp.*, no. 437.

Skyphos

NF 31. Case 6. Fragment from Zone A, Foce del Sele. Male head with red fillet and dotted curls. Shows the close relationship between the style of the Caivano Painter and that of Naples 1778. Cf. *PPSupp.*, nos. 404–5 and 416; *PP*, figs. 55 and 58.

Lekane lids

NF 32. Basement; from area north of *Loc.* IV, level 8. Original diam. 16. Seated woman and seated youth with kalathos between; seated Eros on black and white spotted rock, seated woman with phiale. Fine style, closely related to the Caivano Painter.

NF 33. Basement; from same area, level 10. Ht. with knob 12·5. Seated woman with cista; below—female heads with palmette between.

NF 34–5. Basement; from same area, level 8. Two small fragments with female heads.

Bottle

NF 36. Basement; from same area. Ht. 20. Woman with wreath and figure with lower parts draped seated on a rock-pile, holding a phiale. Between them, an altar. Behind, a large fan palmette.

(ii) *The Painter of Naples 2585*

Lebes gamikos

NF 37. Basement; from same area. Ht. 25. Large fragment of (*a*): nude youth with one foot raised offers gifts to a seated woman.

(iii) *Late Minor Vases*

Neck-amphora

NF 38. Case 33; from area north of *Loc.* IV. Ht. 29·5. (*a*) and (*b*) Female heads.

Lebetes gamikoi

NF 39. Case 33; from same area. Ht. 8. (*a*) and (*b*) Female heads.

NF 40. Case 33; from same area. Ht. 7·5. (*a*) and (*b*) Female heads.

NF 41. Case 33; from same area. Ht. 6·5. (*a*) and (*b*) Female heads.

NF 42. Basement; from north of *Loc.* IV, level 8. Ht. 14. Badly broken. (*a*) Nude youth with red fillet before altar, (*b*) nude woman with red fillet (mostly missing).

NF 43. Basement; from same area. Fragment, showing upper part of woman with folded drapery above. Probably from a laver scene.

Lekane lids

NF 44. Basement; from north of *Loc.* IV, level 10. Diam. 9. Seated nude woman: seated draped woman.

NF 45. Basement; from same area. Diam. 7. Two female heads.

NF 46. Basement; from same area. Diam. 10. Two female heads.

Squat lekythoi

NF 47. Case 33; from area of *Loc.* IV. Ht. 19·5. Female head between palmettes.

NF 48. Basement; from north of *Loc.* IV, level 8. Ht. 21 (top missing). Nude youth moving to r. between framing palmettes.

Epichysis

NF 49. Case 42; from the Basilica. Ht. 19·5. Seated woman with phiale.

Kantharos

NF 50. Basement; from north of *Loc.* IV, level 10. Fragment of lower part only—ht. 10·5. (*a*) Seated figure; (*b*) standing figure with feet crossed.

Fragment

NF 51. Basement; from west of *Loc.* IV, level 1. Youth and woman.

The Apulianising Group

When discussing the bell-krater, Philadelphia L29.46, as a late Paestan curiosity (*PPSupp.*, p. 40, pl. XVId), I noted the strong Apulian influence in its style, but could not at the time give any very close parallels. The new excavations have brought to light a host of them, mostly in the shape of bottles, which must have been used mainly as votive offerings in the Sanctuary of Hera, since none to my knowledge have, as yet, been found elsewhere at Paestum or in the vicinity. In consequence, vases of this style are rarely to be seen outside the Museum at Paestum—there is a single specimen in the British Museum, recently acquired at an auction sale and representing: (*a*) a draped woman with a thyrsus; (*b*) Eros. It is in a bad state of repair, and its provenience is unknown.

The clay is generally a deep orange-brown, and a good deal of added white is used, especially for the flesh of women, an addition that is comparatively rare on the minor vases of the Apulian style proper. Sometimes the bottles are decorated with figures on both sides, more often on one only, in which case the other is filled with elaborate scrolls and palmettes. The vases are mostly late; the earliest would seem to be of the time of the Boston Orestes Painter, but the majority are contemporary with the work of the Painters of Naples 1778 and 2585, and show the same degeneration of style. On the very latest the female faces are almost shapeless and the hair is done in the vase-painter's equivalent of the sculptural melon-slice style, so they may well belong to the first decades of the third century.

In the Apulianising Group there seem to have been at least three artists at work—again there is a close relationship between them, and I imagine there was but a single workshop, a different establishment, however, from that in which the previously known late Paestan artists were employed. The style is very characteristic, with its strong Apulian flavour, careless and often scrappy drawing, extensive use of added white, and a fondness for depicting a neatly folded piece of drapery somewhere about the scene.

There are two comparatively early vases in a very pale buff clay which may be regarded for the moment as the forerunners of the developed Apulianising style. One is a large bottle (now in Case 33, from the

area of *Loc.* IV), the upper part of which is missing, on which is represented the contest between Apollo and Marsyas. In the centre is Nike with a wreath hovering above Apollo, who sits with the cithara at his feet; to r. is Marsyas seated with his flute case, a shaggy silen and a couple of women, perhaps Muses. A bright red is used for adjuncts, and we find the same colour on some fragments from another large vase from the same area. On the neck is Athena in a quadriga, and the main scene represented a youth holding a child, only the legs of which have survived, beside a couch from which rises a woman with white flesh draped in a scarlet cloak. To right is another woman leaning with her r. elbow on the end of the couch. The white has mostly gone, so it is almost impossible to make out their faces, but the scene is powerfully drawn and is clearly the work of a new master of some importance (pl. XXXVIII*d*).

Near to the Marsyas bottle are two fragments in Case 42, from the Basilica, representing bearded men in frontal view. There is a good deal of added white and red; the rather scrappy drawing and the rendering of the hair on the chest recalls the shaggy silen beside Marsyas. Also some fragments of a large skyphos showing a flying Eros with white wings, a frontal woman and a youth to right, which are, however, in style, treatment and drawing, nearer to those with the woman on the couch (pl. XXXVIII*e*).

The following minor vases (all bottles, unless otherwise stated) are the work of a single artist; we might, perhaps, refer to him as the Folded Drapery Painter. Note also his fondness for depicting bead-chains with a light-brown wash over them. Nos. 1, 2, 6 and 7 are in Case 33; no. 3 is in Case 42; the rest are in the Basement.

1. From *Loc.* IV. Ht. 32. (*a*) Three women at a laver, (*b*) large female head. (Pl. XXXVIII*a*.)
2. From *Loc.* IV. Ht. 22. Seated white-fleshed woman with large cista. (Pl. XXXVIII*b*.)
3. From the Basilica. Ht. 24·5. Seated Eros with fan. (Pl. XXXVIII*c*.)
4. From the area N. of *Loc.* IV. Ht. 16. Two kneeling white-fleshed women opening a box.
5. From the area N. of *Loc.* IV. Ht. 15 (topless). Eros on a rock-pile.
6. From *Loc.* IV. Ht. 16. Woman kneeling at a large laver; drapery hanging behind.
7. From *Loc.* IV. Ht. 21·5. Kneeling woman with large fan at open box. Folded drapery behind.
8. Fragment; from the Basilica (Zone 1). Women washing; drapery above.
9. Fragmentary lebes gamikos, from north of *Loc.* IV. Shoulder: female heads and rosettes. Body: Nude woman with mirror at laver in which is a kneeling Eros; draped woman with fan to r. (Pl. XXXVIII*f*.)

The use of the rosettes links this vase with a large fragmentary bottle from Zone A of the Foce del Sele excavations now in Case 6, showing a man in front of a temple or heroön and a female head with staring eyes. The rendering of the man's straggly hair in turn reminds us of the heads on the two fragments in Case 42, and shows the close relationship in which the different styles within the group stand to one another.

Other more or less complete vases in the Apulianising style are:

Bottles

1. Case 33; from area N. of *Loc.* IV. Ht. 28. Eros and woman seated on rock-pile. A great deal of added white is used—for the flesh of the woman, the rocks, and the wings of Eros. A large fan palmette behind.
2. Case 33; from same area. Ht. 26. Eros and seated woman with wreath and mirror.
3. Basement, from north of *Loc.* IV, level 8. Ht. 30·5. Nude youth, draped white-fleshed woman moving to l. and looking r.; palmette, Eros with phiale.
4. Basement; from same area. Ht. 14 (topless). Seated woman with tambourine by open cista.

Lebes gamikos

5. Case 33; from *Loc.* IV. Ht. 18·5. (*a*) Seated woman with mirror and phiale; (*b*) female head.

Fragments of large vases

6. Basement; from *Loc.* II, north of Temple of Poseidon. (*a*) Nude youth, seated woman, standing draped woman with fan; (*b*) running woman with large bunch of grapes.
7. Basement; from north of *Loc.* IV, level 11. (*a*) Youth, seated woman and flying Eros; (*b*) woman with wreath.

It is to this group that the Philadelphia krater and the B.M. bottle belong. The melon-slice hair style is seen most clearly in a topless bottle (ht. 17; from north of *Loc.* IV, level 8), with heads on each

side of it, one with only a rudimentary face. Other examples are to be seen in some fragments in Case 6 from the Foce del Sele and on several other bottles, which are not easily distinguished owing to the absence as yet of inventory numbers. They seem to represent the last phase of the Apulianising style.

B. ADDENDA AND CORRIGENDA

The following vases should now be added to the Catalogue on pp. 3–22 of *PPSupp.* I am greatly indebted to Dr. Sestieri for securing me admission to the Fienga Collection at Nocera Inferiore, to Mr. P. E. Corbett of the British Museum, who most generously placed at my disposal his photographs of and notes on the very interesting collection of Greek vases at Nostell Priory near Wakefield in Yorkshire, and to Dr. Dinu Adamesteanu for allowing me to study the finds from his recent excavations at Gela in Sicily.

I. Early Paestan

26 bis. Bell-krater. Nocera Inferiore, Coll. Fienga. Ht. 40. (*a*) Bearded silen kneeling between two seated maenads; bearded silen with amphora, seated woman with small Eros on lap; (*b*) woman with tambourine and thyrsus, standing draped youth with fillet. Rich orange-red clay; by the Revel Painter.

II. Workshop of Asteas and Python

44 bis. Two fragments of calyx-krater. Gela—Ufficio Scavi, from Gela. (i) Old phlyax actor with white hair beside door. He wears a red tunic with a himation and holds a staff. (ii) An altar in white, with the foot and leg of a figure seated upon it. Beneath is a stage with a hanging curtain in front. Below the design is a band of egg pattern, palmettes and lotus buds, and a small band of wave pattern.

The old man is very much in the style of Asteas (*cf.* Charinos on Berlin F3044 or the old man on the Syracuse rhyton, *PPSupp.*, no. 60, pl. Va), to whom the fragment had already been attributed by P. Orlandini, who hopes shortly to publish it, along with two other phlyax fragments recently found in the vicinity of Gela.

73 bis. Bell-krater. Nostell Priory. (*a*) Dionysus seated on tendril with bird and phiale, young satyr with thyrsus; (*b*) two draped youths.

Altavilla Group.

86 ter. Neck-amphora. Nocera Inferiore, Coll. Fienga 554. Ht. 29. (*a*) Youth with thyrsus and wreath, draped woman; (*b*) nude youth with thyrsus between two altars.

Altavilla Group.

177 bis. Bell-krater. Nostell Priory. (*a*) Seated Dionysus and young satyr; (*b*) two draped youths.

Python.

219 bis. Hydria. Nocera Inferiore, Coll. Fienga 568. Ht. 21·5. Woman with ball and cista. Beneath the handles, owls.

Minor work of the Asteas–Python workshop.

241 bis. Stemless cup. Paestum, Museo Nazionale, from the Spinazzo necropolis. I. Female head; A and B. White laurel wreath.
Minor work of the Asteas–Python workshop.

306 bis. Neck amphora. Catania, Museo Civico 4327. Ht. 25. (*a*) Young satyr with thyrsus; (*b*) youth with thyrsus and chlamys fastened at shoulder.
Minor work of the Asteas Group.

319 bis. Oenochoe (shape 3). Nostell Priory. Young capering satyr with wreath and phiale.
Minor work of the Asteas Group.

329 bis. Pelike. Nocera Inferiore, Coll. Fienga 595. Ht. 17·5. (*a*) Seated half-draped woman with mirror and box; (*b*) Eros leaning forward over raised foot.
Minor work of the Asteas Group.

III. Transition Period

346 bis. Lebes gamikos. Nostell Priory. (*a*) Seated Dionysus with wreath and cista by altar; (*b*) female head.
Boston Orestes Painter.

375 bis. Bail-amphora.[3] Adolphseck—Prinz von Hessen. (*a*) Seated woman; (*b*) draped youth. On the neck: (*a*) female head; (*b*) palmette.
Caivano Painter.

384 bis. Bell-krater.[4] Leiden K 1945/8.8 Ht. 22·3, diam. 22·6. (*a*) Seated woman with cista; (*b*) griffin.
Caivano Group.

389 bis. Squat lekythos. B.M. old cat. 1496. Ht. 26. Woman with phiale, and nude youth seated on rock.
Caivano Group.

392 bis. Squat lekythos. B.M. old cat. 1500. Ht. 21·5. Young silen with thyrsus.
Caivano Group.

IV. Late Paestan

456 bis. Bell-krater. Nostell Priory. (*a*) Young satyr and draped woman; (*b*) draped youth and draped woman.
An early work by the Painter of Naples 2585, showing the influence of the later vases of the Asteas Group.

These vases bring the Paestan total, excluding those in Section A, to 548.

A thorough check in Naples Museum between the Heydemann Catalogue numbers and those of the Inventory revealed the following errors (see *PPSupp.*, pp. 48–9):

bell-krater no. 100: H 1786, should be inv. 82128
oenochoe no. 205: H 1787, should be inv. 81682
neck-amphora no. 314: inv. 81788 is H 1965
neck-amphora no. 315: inv. 82759 is H 1904
oenochoe no. 447: H 1792, should be inv. 81681
oenochoe no. 448: H 1794, should be inv. 81676

[3] I owe my knowledge of this vase to the kindness of Dr. F. Brommer of Marburg.
[4] I owe my knowledge of this vase to Dr. J. H. C. Kern of Leiden, who has also very kindly supplied me with information about other Paestan and South Italian vases in various European collections.

The two Paestan vases in Karlsruhe (*PPSupp.*, nos. 103, 134) have now been published by G. Hafner in *CVA* fasc. 2, pl. 77; the Paestan vases in the Vatican are included in the first volume of my *Vasi Italioti ed Etruschi*, pls. VII–XI, pp. 24–37.

The object which the old phlyax actor on the Taranto calyx-krater (*PPSupp.*, p. 27, no. 43, pl. V*c*) is carrying on his head is probably a brazier; on an early Apulian bell-krater in Ruvo (Jatta Coll. 820) there is a precisely similar object filled with blazing coals and an old silen warming himself beside it.

I conclude with a reference to some doubtful additions to the list of Paestan vases. The calyx-krater Naples 1983 (inv. 82259), representing (*a*) a combat scene, (*b*) Dionysus between a woman and a bearded silen, and the lekane Naples 2581 (inv. 82091), showing two women at a laver with Eros (Sudhoff, *Aus dem antiken Badewesen*, fig. 39), are so hideously overpainted as to make definite attributions impossible; when cleaned, however, the former may well prove to be in or near to the style of Python (cp. the reverse figures with those on the calyx-krater Louvre N3157, *PP* pl. XIXd), and the latter to be by the Boston Orestes Painter (cp. the sphinx in the exergue with that on Vienna 2949, *PP* fig. 50). Two vases with female heads—the oenochoe Copenhagen 269 (*CVA* pl. 248, 1), from Bari, and the squat lekythos Brunswick AT372 (*CVA* pl. 42, 15), probably from Paestum—look to be associated with the latest work of the Asteas–Python group and seem to have the typical Paestan side-palmettes, but one cannot be quite certain from the *Corpus* reproductions.

A. D. Trendall

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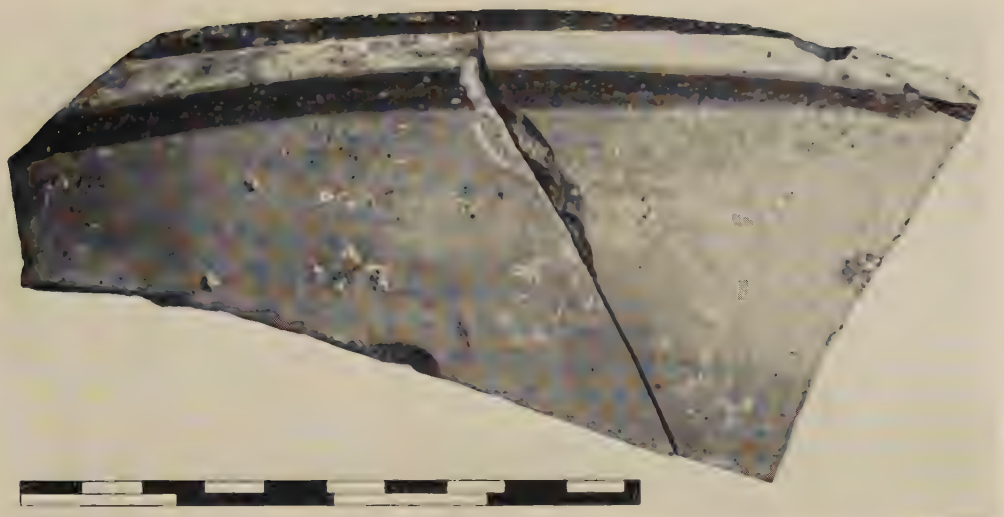


(B.S.R.)

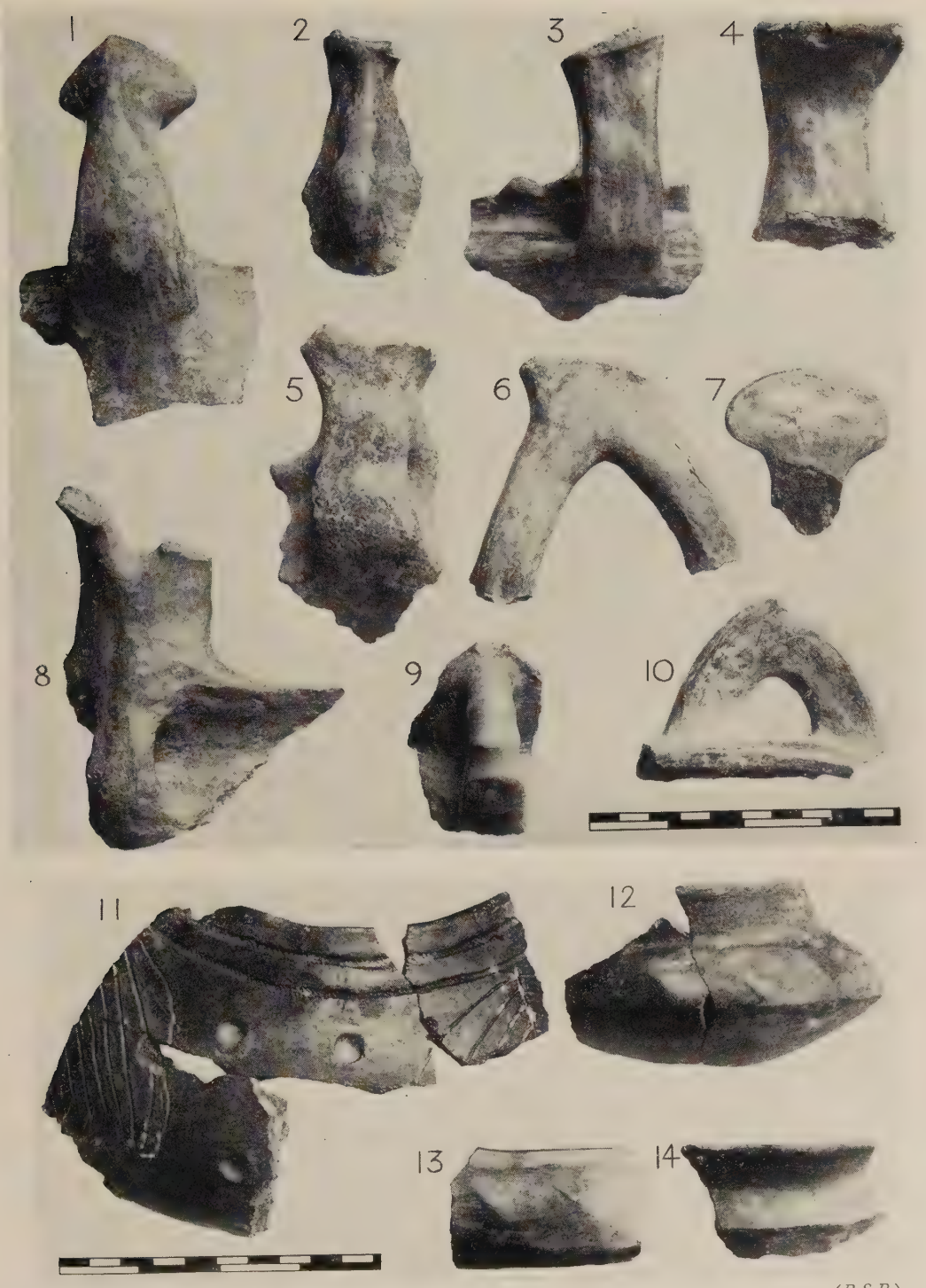
1. Painted Sherd (p. 2)

(Bacon, del.)

2. Decorated Bowl, Type B VIII (p. 8)

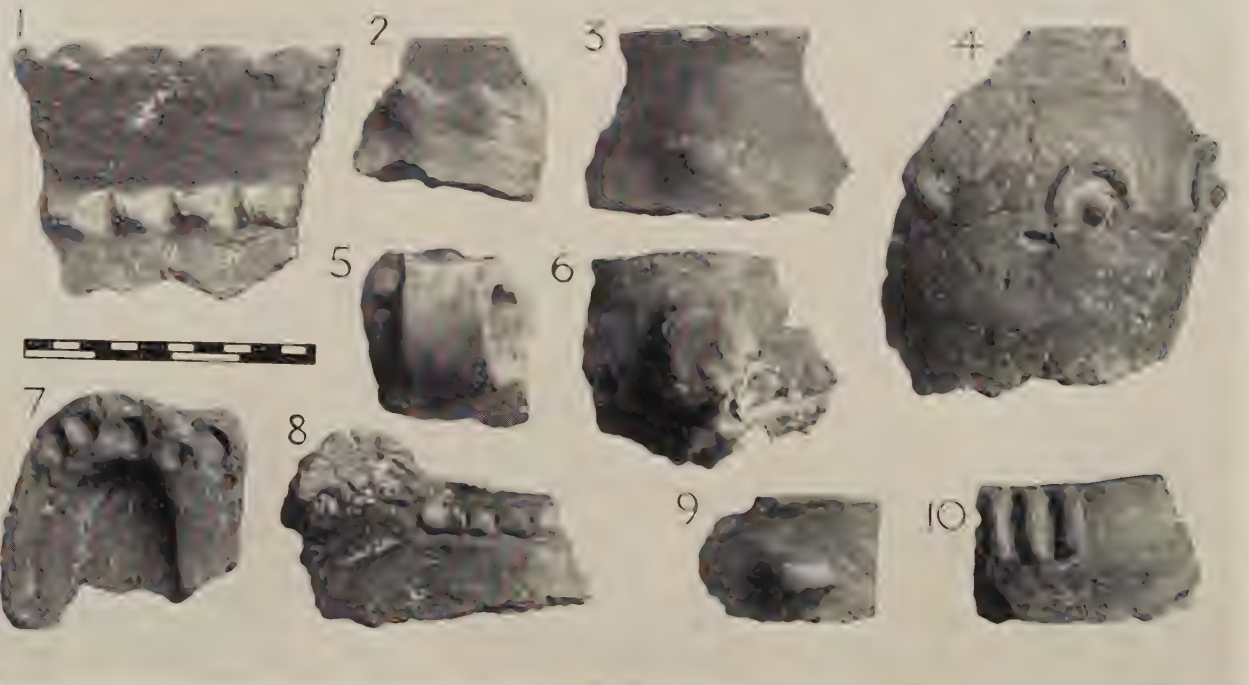
Manaccora: Pottery from Stratum III

MANACCORA, STRATUM III: POLISHED BLACK WARES (pp. 3–10) (*B.S.R.*)



(*B.S.R.*)

MANACCORA, STRATUM III: POLISHED RED WARES (pp. 10–14)



MANACCORA, STRATUM III: COARSE WARES (pp. 14–18)

(B.S.R.)

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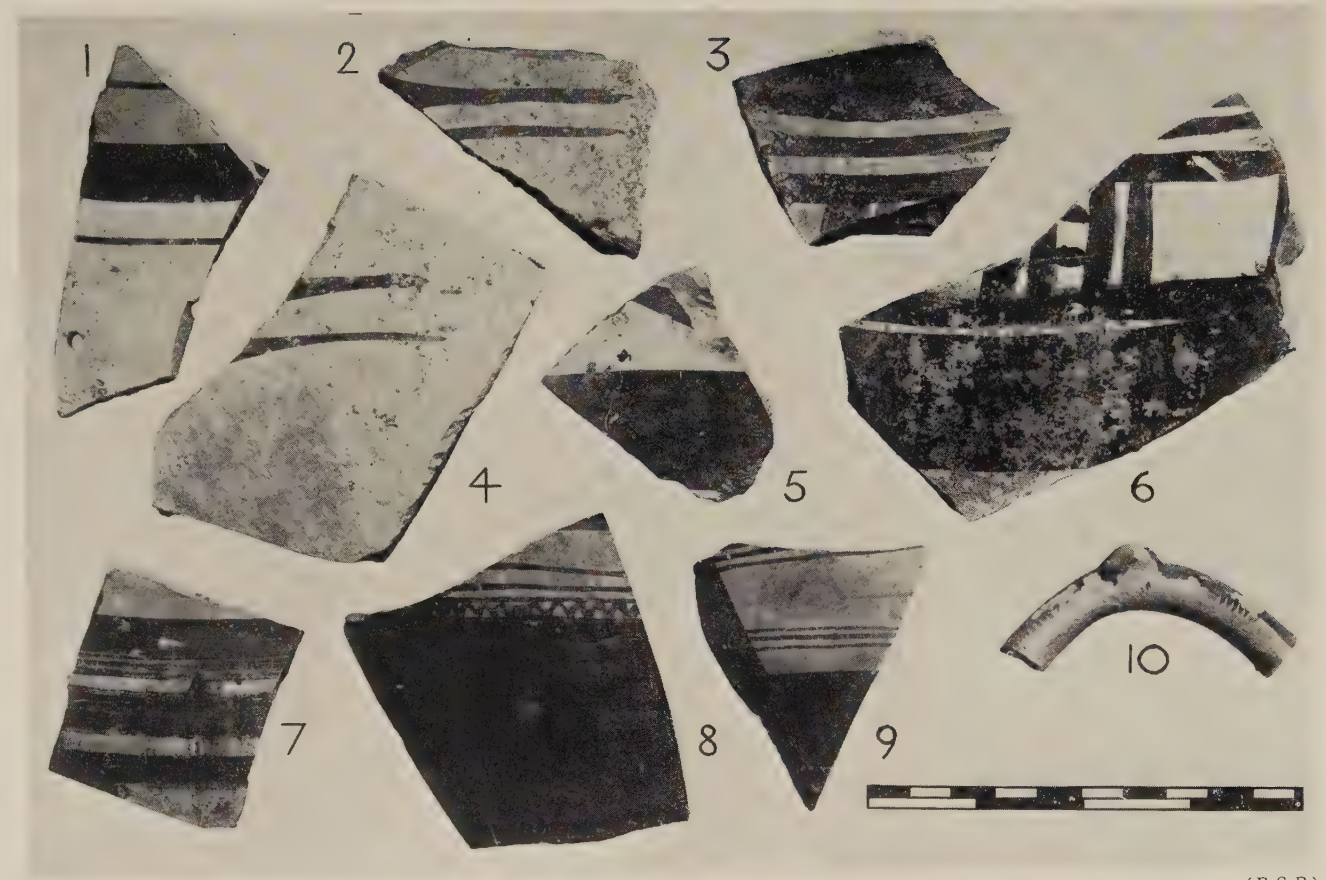


(*B.S.R.*)

MANACCORA, PAINTED WARES: 1–6, 8–10, STRATUM II (p. 24); 7, STRATUM III (pp. 2–3)

(*Baumgartel*)

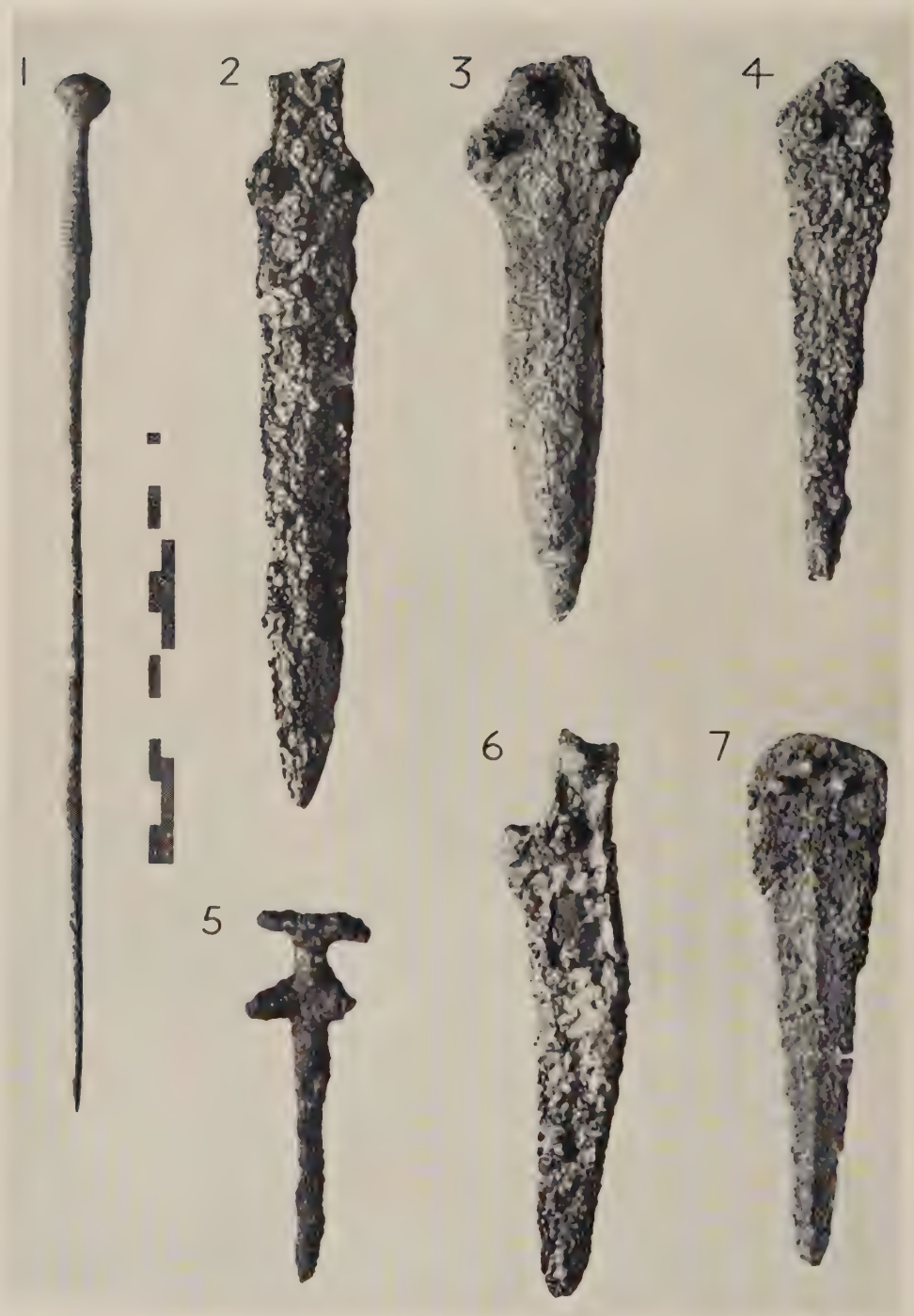
1. MANACCORA, STRATUM II: PAINTED WARES (p. 24)

(*Baumgartel*)

2. MANACCORA, STRATUM I: VARIOUS WARES (pp. 28–9)

(*B.S.R.*)

MANACCORA, STRATUM III: SWORDS AND DAGGER (p. 19)



(B.S.R.)

MANACCORA, STRATUM III: 1 AND 5, BRONZE PINS (p. 21);
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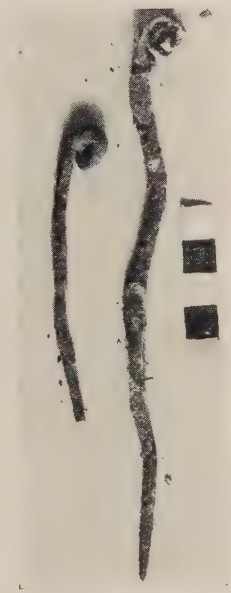
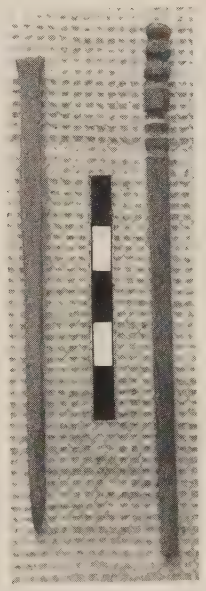
1. Swords and Daggers (p. 19)

2. Swords and Daggers (p. 19)

3. Knives (p. 20)



4. Bronze Pins (p. 21)



5. Bone Pins (p. 23)

Manaccora, Stratum III: Objects of Bronze and Bone

(Photos: Baumgartel)

1. Bronze Spiral (p. 21)

2. Bronze Spirals (p. 20)

3. Bronze Spirals and Rings

4. Bronze Spiral (p. 21) and Rings (p. 21); Glass Bead (p. 22)

Manaccora, Stratum III

(*Photos: Baumgartel*)

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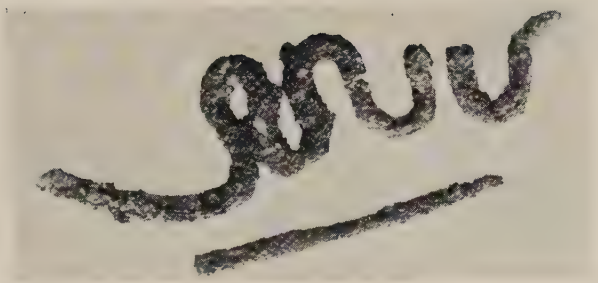
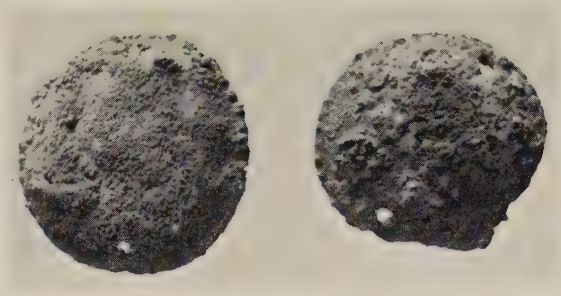
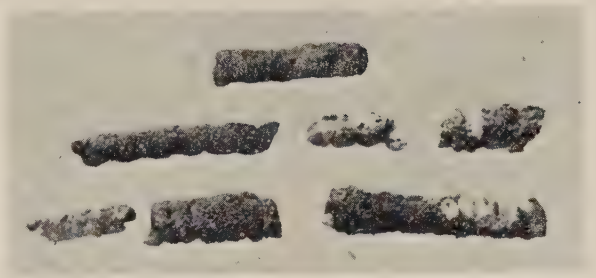


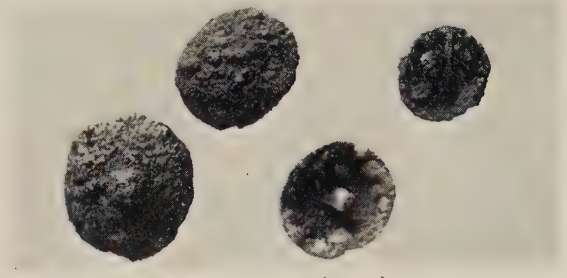
1. Fibula (p. 21)



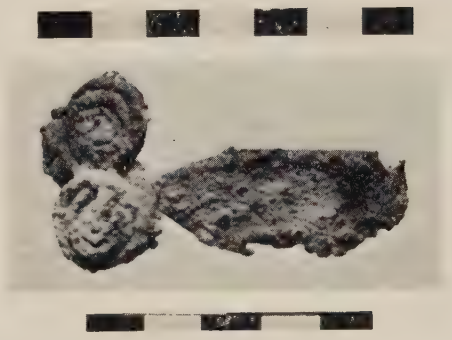
2. Tutuli (p. 22)



3. Fragments of Beads for Necklaces (p. 22)



4. Buttons (p. 22)



5. Fragment of Arm-ring (p. 21)

Manaccora, Stratum III: Objects of Bronze

(*Photos: B.S.R.*)

PLATE XI

(*Valletta Museum*)

ROCK TOMB AT GHAJN QAJJET, MALTA: LIMESTONE SLAB AND REMAINS OF SKELETONS (p. 32)

a. Bronze Lamp-stand (p. 37)

b. Iron Loops Found by Male Skeleton (p. 34)

Rock Tomb at Ghajn Qajjet, Malta

(*Photos: Valletta Museum*)

PLATE XIII

a. Pottery and Lamps (*Valletta Museum*)

b. Corinthian Cup (p. 39) (*Valletta Museum*)

c. East Greek Bird Bowl (p. 40) (*Valletta Museum*)

Rock Tomb at Ghajn Qajjet, Malta

(*Crown Copyright Reserved*)

LEPCIS MAGNA, SHOWING SUCCESSIVE DEFENSIVE CIRCUITS (pp. 41–73)

(*Antiquities Department*)

a. Late Roman Wall: Tower A and Junction of Landward and Seaward Circuits (p. 48)

(*J.B.W.P.*)

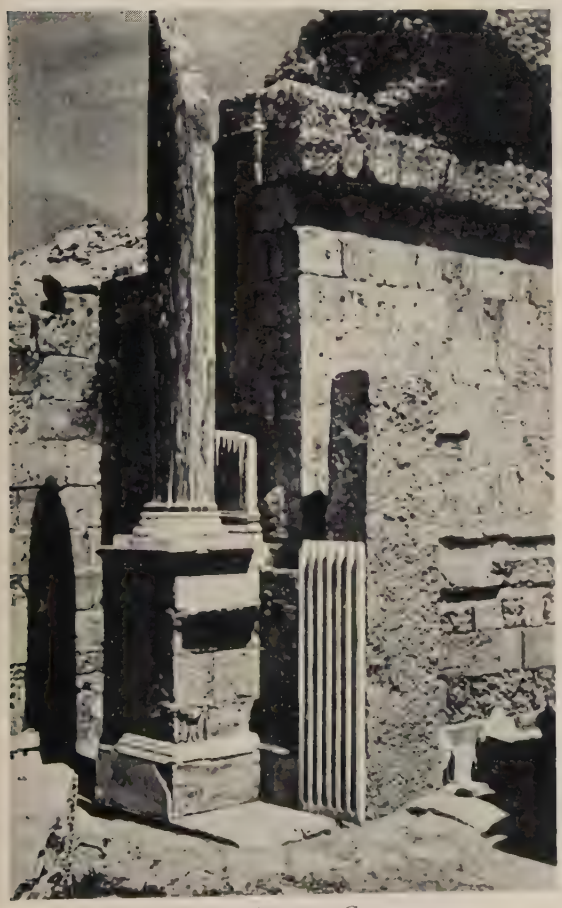
b. Late Roman Wall, South of the West Gate (p. 52)

(*R.G.G.*)

c. Byzantine Wall, Tower B 18 (p. 66)

Lepcis Magna, City Walls

a. The Outer Face



b. North Jamb of Gateway

c. North Pier, Dismantled Inner Face of Earlier Arch

Lepcis Magna, the West Gate (p. 51)

(*Photos: J.B.W.P.*)

(*Antiquities Department*)

a. Exterior, During Excavation: Late Blocking Partly Removed

(*J.B.W.P.*)

b. Interior, Showing Entrance to South-east Tower and (*extreme left*) Steps up to Parapet

Lepcis Magna, Byzantine Gate (B 2) (p. 56)

a. Sixth-century Wall: Tower (B 16) and Postern behind the Temple of Rome and Augustus (p. 59)

b (*above*) Byzantine Postern (B 16), Inner Face
c (*right*) Late Roman Wall: Section Exposed in Dunes (p. 50)

Lepcis Magna, City Walls (*Photos: Antiquities Department*)

(*J.B.W.P.*)

a. Byzantine Wall (B 5 and B 6) in the Severan Piazza (p. 61)

(*B.S.R.*)

b. Junction of Byzantine Wall (*right*) with Earlier Fortification (*left*), on Site of Cross-roads to the North of the Severan Piazza (p. 54). Note Levels of Footings

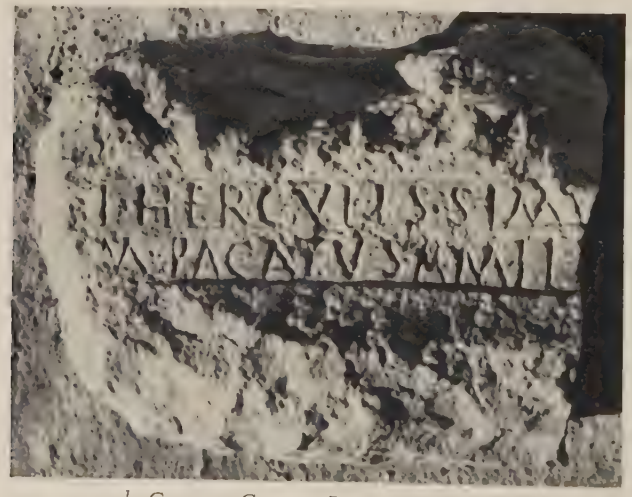
Lepcis Magna, City Walls

a. GASR EL-GEZIRA, FROM THE EAST (pp. 74–9)

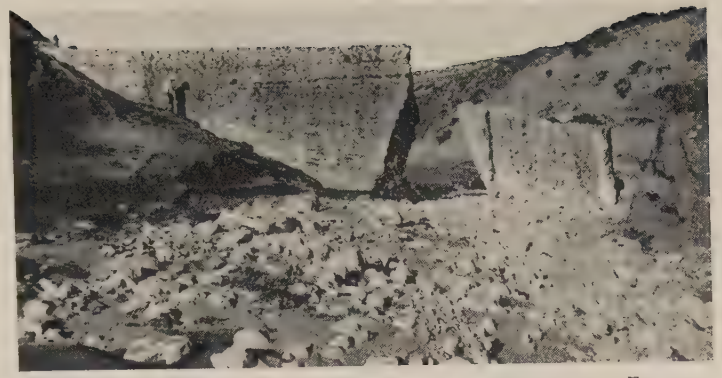
b. GASR EL-GEZIRA, FROM THE SOUTH-WEST (pp. 74–9)

(*Photos, Oates*)

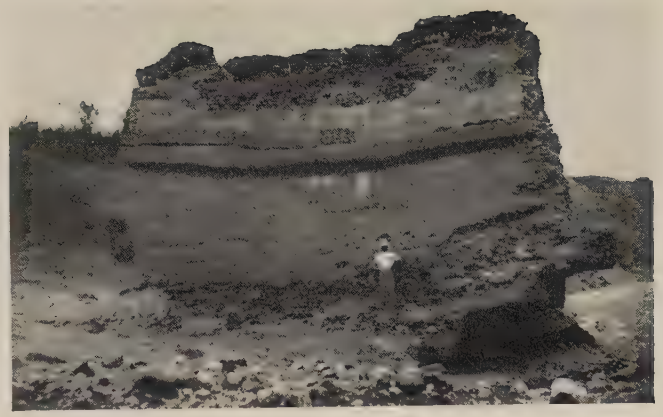
a. Gasr el-Gezira, from the South-East Angle (p. 77)



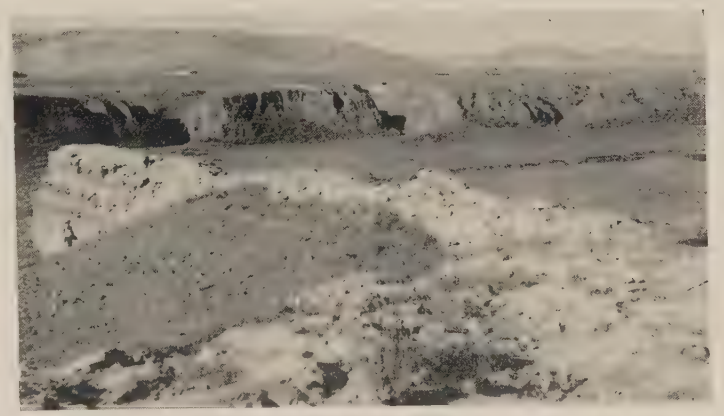
b. Gasr el-Gezira: Inscribed Block
(p. 79)
(*Photos, Oates*)



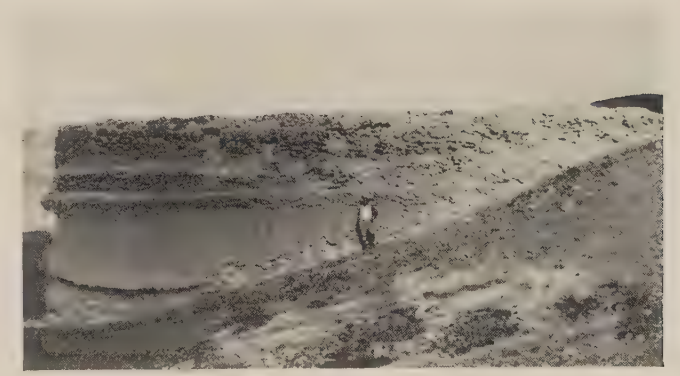
a. In Udei el-Me, Above Gasr ed-Dauun: Upstream Face



b. In Wadi Turgut, near Bir Damra: Upstream Face



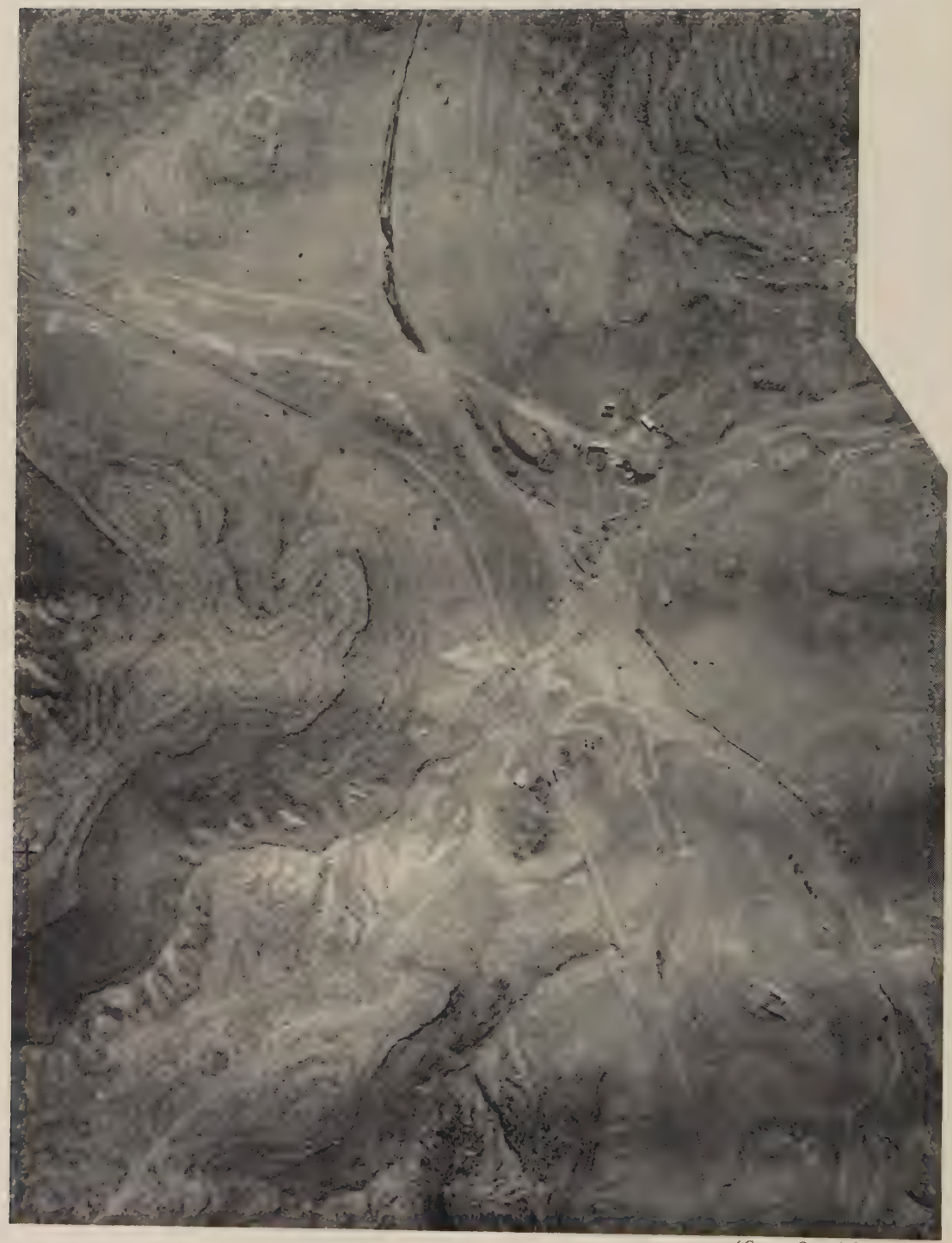
c. In Wadi Gsea, Showing Width of Present-day Watercourse



d. As *c*, Downstream Face, Showing Profile of Original Watercourse

Dams in the Tripolitanian Gebel (pp. 88–9)

(*Photos, Oates*)



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GASR ED-DAUUN: AERIAL VIEW (pp. 89–92)

a. Site 8: The North Corner, from the Courtyard (p. 96)

b. Site 7: The Pressing-room (p. 95)

Olive Farms in the Tripolitanian Gebel
(*Photos, Oates*)

SIDI HAMDAN: GENERAL VIEW FROM THE HILL TO THE SOUTH-EAST OF THE SITE (p. 97)

a. Sidi Hamdan: North Corner of East Wing (p. 99)

b. Sidi Hamdan: Outer North-west Wall, Showing Orthostat-and-concrete Construction (p. 97)

(*Photos, Oates*)

a. Sidi Hamdan: Lower Blocks of an Olive Press, with Slide Block (p. 97)

b. Sidi Hamdan: Door-jamb of an Olive Bin, Showing Slot for Sliding Door and Rebate for the Flap (p. 99)

(*Photos*, *Oates*)

a. Site 11: The North-east Wall, Looking South-east, with Foundation of Destroyed Bastion in the Foreground (p. 101)

b. Site 15: The North-east Bastion and East Wall (p. 103)

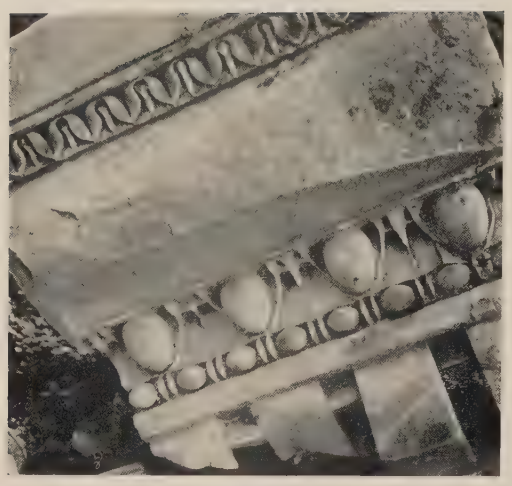
c. Site 15: Door-jamb and Lintel (p. 103)

d. Site 15: Inscription (p. 114)

Sites in the Tripolitanian Gebel

(*Photos, Oates*)

PLATE XXIX



a. Forum of Augustus

b. Forum of Trajan

c. Forum of Augustus, Architrave Soffit

d. Forum of Trajan, Architrave Soffit

e. Vatican Museums, from the Capitolium at Ostia

f. Antiquario Comunale

Rome, Augustan and 'Augustan Revival' Mouldings (pp. 120–2)
(*Photos, D. E. Strong*)

(*Vatican Museums*)

a. Cornice of the Main Order (now in the Tabularium)

(*German Archaeological Institute*)

b. Via delle Tre Pile, Cornice Fragment

(*D. E. Strong*)

c. Antiquario Comunale, from the Main Order

(*D. E. Strong*)

d. Inner Face of Architrave

Rome, Hadrianeum (p. 123)

a. Antiquario Forense, Cornice (*Gab. Fot. Naz.*)

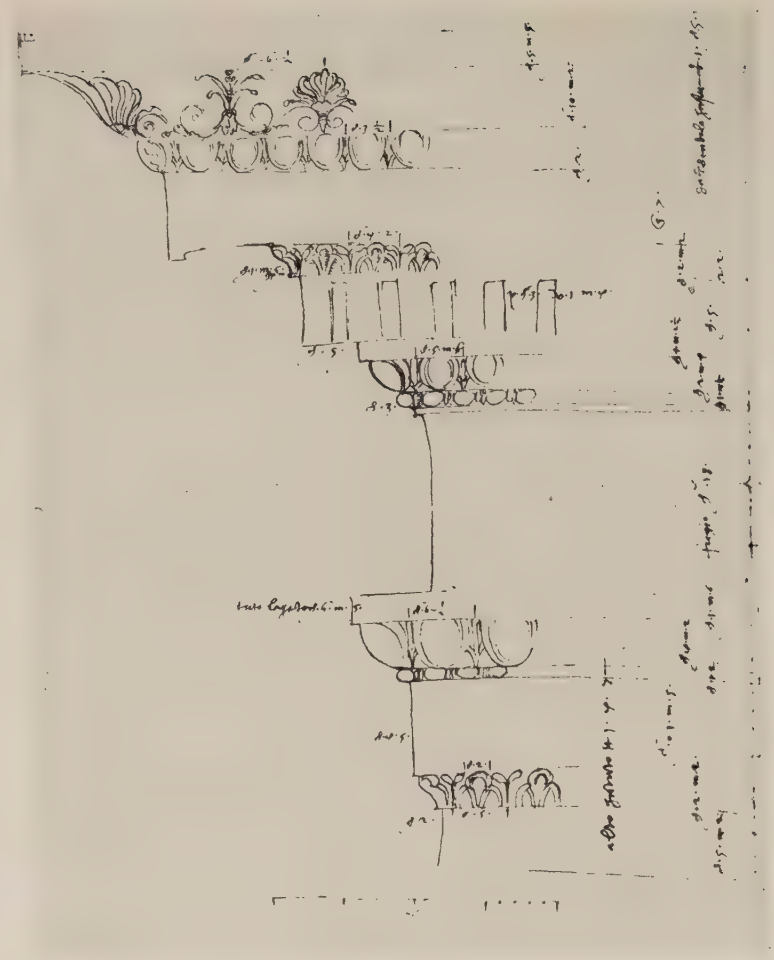
(*Vatican Museums*)

b. Vatican Museums, from the Architrave of the Main Order

(*Vatican Museums*)

c. Vatican Museums, from the Cornice of the Main Order

Rome, Temple of Venus and Rome (p. 127)



a. Early Sixteenth-century Drawing (Uffizi Arch. 4330 recto) (p. 143)

b. Via del Banco di S. Spirito, 61

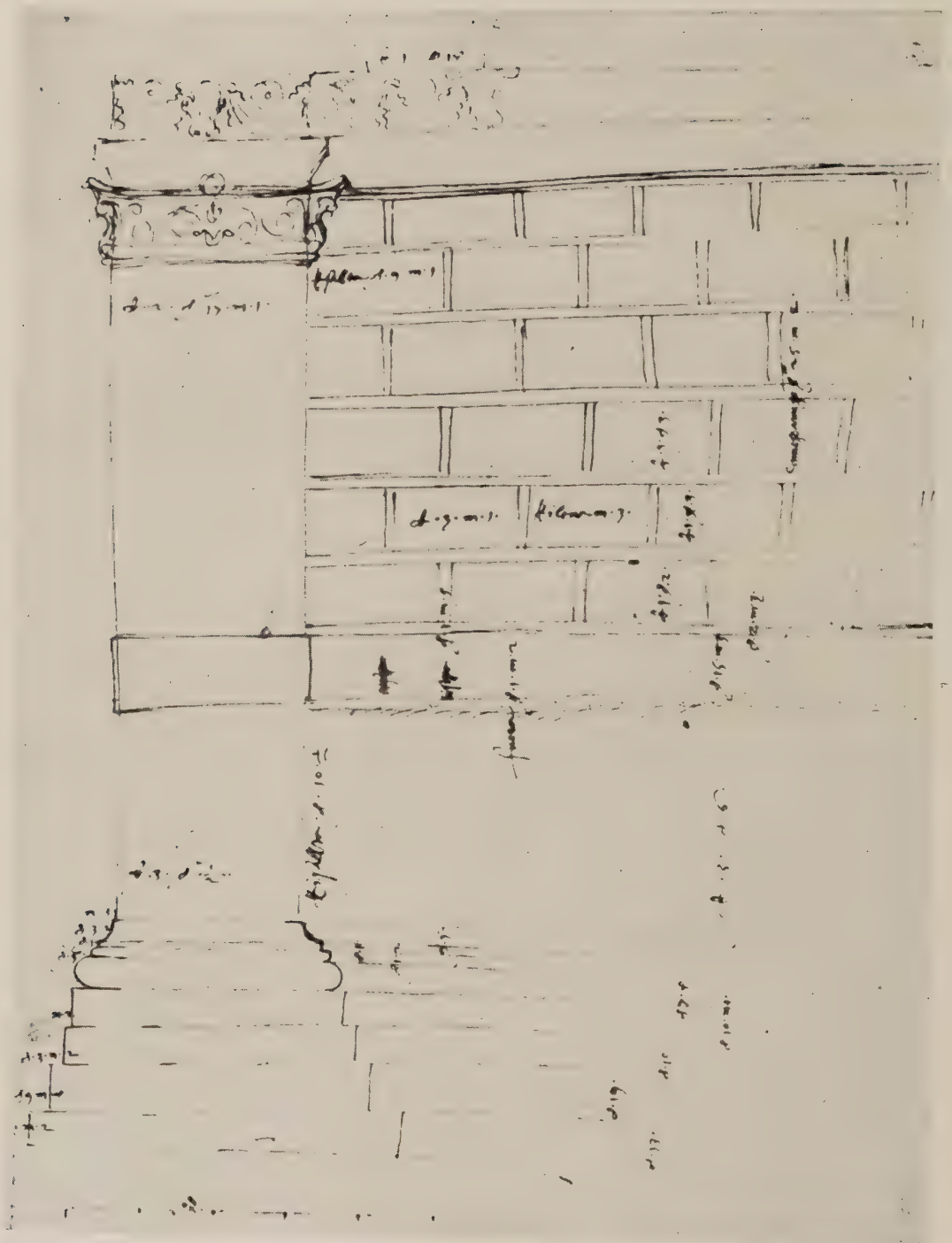
c. Castel Sant'Angelo, Museo Romano

d. Castel Sant'Angelo, Museo Romano

Mausoleum of Hadrian, Entablature of the Square Base (pp. 129, 142)

(Photos: a, after Bartoli; b–d, D. E. Strong)

PLATE XXXIII

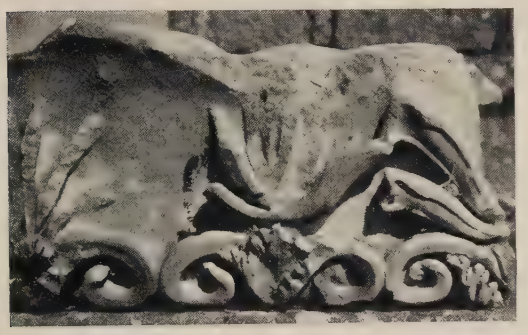


MAUSOLEUM OF HADRIAN, ENTABLATURE OF THE SQUARE BASE: EARLY SIXTEENTH-CENTURY DRAWING (UFFIZI ARCH. 4330 VERSO) (p. 143)

(After Bartoli)

a. Trajaneum, Cornice of Main Order

b. Asklepieion, Entablature of West Colonnade



c. Trajaneum, Sima of Raking Cornice

e. Trajaneum, Capital

d (*left*). Trajaneum, Cornice of Main Order

Pergamon, Second-century Mouldings (pp. 131, 136–9)
(*Photos, D. E. Strong*)

a. Pergamon, Basilica

b. Pergamon, 'Temple of Bacchus'

c. Ephesus, Façade of Library

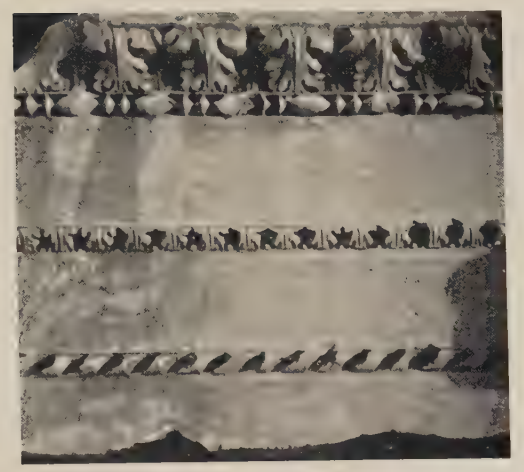
d. Ephesus, Façade of Library (now at Izmir)

e. Ephesus, 'Serapeum': Door-jamb of Cella

f. Pergamon, 'Temple of Bacchus': Door-jamb of Cella

Pergamon and Ephesus, Second-century Mouldings (pp. 136–7)
(*Photos, D. E. Strong*)

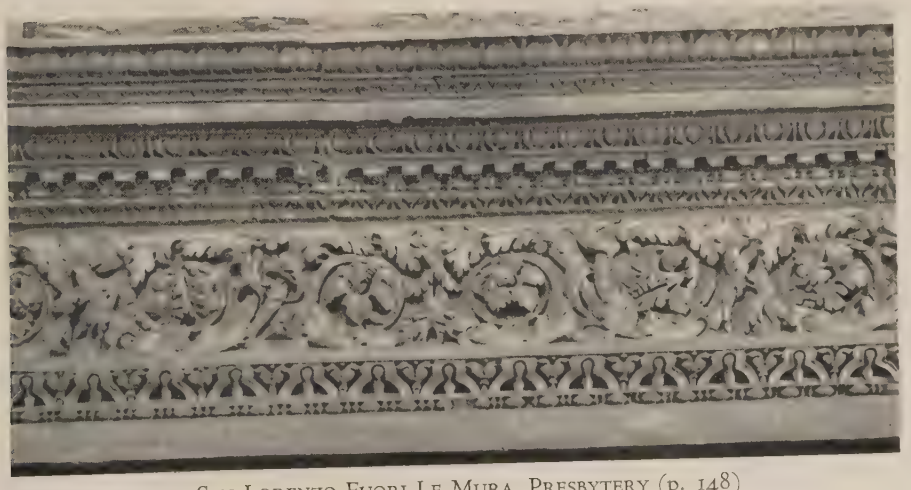
a. Antiquario Comunale (p. 151)



b. Vatican Museums (p. 148)

c. Domus Flavia, Peristyle (p. 148)

d. Lateran Muslum (p. 148)



e. San Lorenzo Fuori Le Mura, Presbytery (p. 148)

Rome, Second-century Architectural Mouldings

(*Photos: a–d, D. E. Strong; e, British School*)

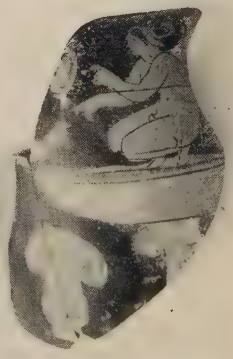
a

b

c

e

d



f

VASES FROM PAESTUM IN THE APULIANISING STYLE (p. 164)